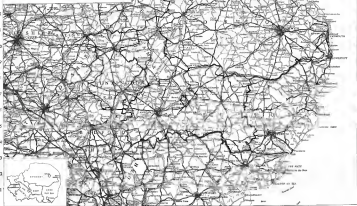


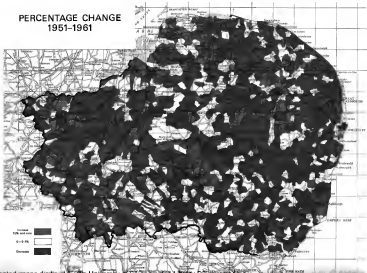
EAST ANGLIA ECONOMIC PLANNING REGION

0 5 10 15 MILES



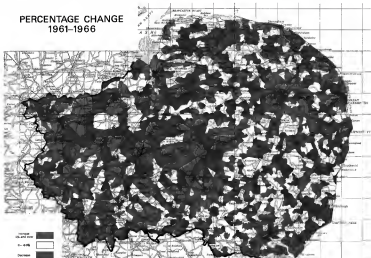
CHANGES IN POPULATION

PERCENTAGE CHANGE
1951-1961

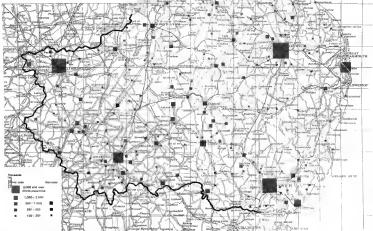


IN PRIVATE HOUSEHOLDS

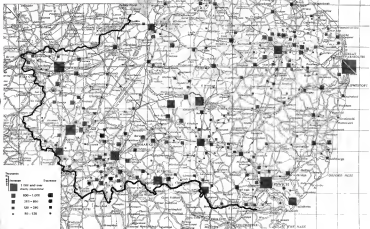
PERCENTAGE CHANGE
1961-1966



ABSOLUTE CHANGE 1951-1961



ABSOLUTE CHANGE 1961-1966



TRAVEL TO WORK—AREAS OF DEPENDENCY



1. This Study is in two parts. Part I discusses the main questions confronting future regional policy which have so far emerged from the Council's work. Part II draws together the available information on the economic structure of the region and examines the trends and prospects. The two parts form an integral whole: the discussion of policy in Part I derives from and is, as far as possible, substantiated by the detailed description and analysis in Part II.

2. The preparation of this Study has taken longer and proved more difficult than we had foreseen. Perhaps our most serious immediate difficulty has been lack of information. Until East Anglia was designated a separate economic planning region in 1966 (see Figure 1), almost all the information required for effective regional planning was compiled as part of the statistics for areas with very different geographical coverage from the present East Anglia Planning Region. With the limited resources at our disposal, the assembly of the basic facts about the region has been a formidable undertaking. One of the main features of Part II is that it draws this material together for the first time; one of the most important future tasks for the Council will be to ensure that this body of information is extended and kept up to date. An adequate analysis of the facts of the situation is an essential foundation for effective policy recommendations.

3. We have been very conscious that the setting

up of regional economic planning councils, and the whole present emphasis on regional economic policy, represent a major innovation in government policy. An innovation of this kind poses considerable problems. The Planning Council itself has to form a view of how it can best fulfil the tasks which it has been set. It has to try to establish effective working relationships with the major local authorities and other institutions in the region; it also has to work with the departments of the central Government, many of which have hitherto had no organisation for the consideration of the problems of East Anglia as a separate region, and few of which have found it easy to make staff available for the work which these innovations in regional planning require.

4. This Study is the Council's first report. It is essentially preliminary in character. We are clear that if we were prepared to devote more time and resources to it, it could be substantially improved. But we are also convinced that it would be wrong to delay publication any further. There are a number of central policy decisions, such as the future of the overspill programme, industrial location policy, and investment in transport and communications, which need to be taken without further delay. Again, there is a growing body of opinion which is anxious to see initiated a major public debate on the pattern of the region's future, and which looks to the Council to give a lead.

2 The Council's Approach

5. The functions of the Planning Council are to assist in the development of planning in the region in order to make the best use of resources, and to advise on the implementation of regional policies. In addition, the Council is required to advise the central Government on the regional implications of national economic policies and on regional public investment programmes. Our objective must be to show how East Anglia can be enabled to maximise its contribution to the national economy.

6. In view of the novel character of the regional economic planning councils and the possible misunderstandings which can arise about their functions, it is important to set out as clearly as possible what the Council is trying to do—both in this Study and in its future work.

7. The Council has no executive powers and can act only in an advisory capacity. At the national level, the effect of the new regional economic planning machinery should be to ensure that regional considerations are taken into account more explicitly than in the past. But the way in which proposals coming from the regions can be integrated into national economic policy poses difficult and complex problems for the Government. At the local authority level there are well-established institutions for the formulation and implementation of physical planning decisions, and very many of the detailed issues of planning policy must clearly be decided by the existing authorities. The Council is not required to harness its proposals and investigations to the demands of day-to-day administration: this enables it to take an independent line in suggesting new solutions to old problems, to present alternative solutions to particular problems, and to investigate methods of evaluating such alternatives.

8. The new machinery for regional planning recognises the need for a level of planning which looks at an area larger than any single local authority but a good deal smaller than the country as a whole. It also reflects the need for physical planning decisions to be much more closely related to the requirements of economic policy in its widest sense. Hitherto, questions of physical planning have too frequently been decided with insufficient regard to their economic implications.

Without interfering with the existing links between local authorities and the central Government, the regional councils have an important intermediary advisory part to play between the different levels of planning.

9. The first part of our work has been to establish as comprehensive a picture as we can of the economic structure of the region and the way in which this structure is changing. This is the base from which our recommendations must stem. We cannot make a complete break with the past. But the further ahead we look the more it becomes possible to suggest new approaches to present problems. The need for an imaginative approach in the long term is particularly important in a region such as East Anglia, where the decline in employment in agriculture, and other forces making for greater concentration of population, have important consequences for the pattern of settlement, and where the unprecedented rate of population increase can have far-reaching consequences for the future.

10. East Anglia cannot be looked at in isolation from other regions. It needs to be considered as a dense social and economic network which overlaps administrative boundaries and which has only relatively less close interconnections with other regions. Equally, what happens in one part of the region has inevitable consequences for what happens in other parts. The large increases in population in Ipswich and Peterborough, for example, will effect the pattern of growth and change in a much wider area. It is not possible to assess the interaction of developments simply by plain commonsense. The issues involved are too complicated; and it is necessary not just to enumerate the different factors at work, but to measure their interaction and quantitative importance. The development of more sophisticated methods of analysis—such as regional accounting and input-output analysis, locational analysis and cost/benefit techniques—will help considerably in the longer term.

11. But the lack of the information and proper analytical techniques cannot be allowed to inhibit a practical approach to regional planning problems. There is an urgent need for action. At this stage,

regional economic planning must involve a good deal of 'learning by doing'. The formulation of practical recommendations for policy and the development of better methods of analysis need to proceed in parallel.

12. It may be thought that the development of more systematic techniques of regional analysis might expose the firms and individuals of the region to a 'tyranny of planning'. We do not believe that this is so. On the contrary, it is often difficult for the individual businessman or private citizen to decide on his own best course of action unless

he has a clearer view than at present of the future pattern of development in which he is likely to be operating. One of the most useful and important tasks for any regional economic council is to set out, in the light of the best analysis it can develop, the pattern of developments which form the framework for individual decisions.

13. This Study is our first published contribution to the formulation of regional economic policies for East Anglia. We are here presenting for public discussion our preliminary survey of some of the major problems.

3 Summary of the Problems

14. The East Anglia Economic Planning Region comprises the five administrative counties of Norfolk, Huntingdon and Peterborough, Cambridgeshire and the Isle of Ely, West Suffolk and East Suffolk, and the three county boroughs of Great Yarmouth, Norwich and Ipswich. The region covers 4,900 square miles, with compact dimensions not exceeding 80 miles from east to west and 70 miles from north to south.

15. Compared with the other English economic planning regions, East Anglia has a small population, which is now over 1.6 million people living at a relatively low average density of 0.6 persons to the acre. Since 1961 the region has experienced the fastest rate of population growth of any region in the country, partly through natural increase and partly through voluntary migration reinforced in recent years by the planned expansion of ten overspill schemes. The population is expected to increase at an accelerating rate up to 1981—between 1966 and 1981 official forecasts show a 27 per cent increase. This is the highest rate of population increase expected in any region and compares with the increase forecast for England and Wales of under 11 per cent. Given the small base at present, the expansion will have very marked effects in certain areas. The greatest part of the increase will result from the major schemes of planned migration to Ipswich and Peterborough, and from the smaller town expansion schemes which are expected to be substantially completed by 1981 or before.

16. If the region's population is just over two million at 1981 as expected, then on present official birth-rate and mortality assumptions there will be a natural increase alone of about a further half-million people by the end of the century, and it can be expected that this will be supplemented by some voluntary migration into the region for employment or retirement, and also by long-distance commuters to London. Altogether, the region's population could expand by three-quarters of a million between 1981 and 2001 without any planned overspill beyond 1981. This represents an increase of 37 per cent over 1981, compared with a projected increase for England and Wales of about 21 per cent.

17. In total, then, East Anglia is already facing a population increase of about three-quarters in the next thirty-five years, an increase which is large in absolute terms and is proportionately by far the largest to be absorbed by any region.

18. This very large increase in population is to be imposed on a region which is, in a number of critical respects, not well prepared to receive it. The principal obstacles to receiving a population increase of this scale are:

- a the present system of communications is inadequate even for the present scale of population and economic activity: the rail network is being reduced by closures; the road communications are slow and congested, and towns away from the A1 have only tortuous links with any other region except London;
- b the provision of housing and educational and health services is in a number of essential respects below the national level;
- c it is doubtful whether public investment programmes for transport, education and health will be sufficient to make up existing deficiencies, let alone to meet the demands of a proportional increase in population much larger than the national average;
- d the present distribution of settlements still strongly reflects the historical influence of a predominantly agricultural pattern of economic activity: the widely scattered distribution of population poses serious problems for the adequate provision of modern facilities, even for the existing population, still more for the accommodation of rapid expansion;
- e East Anglia will have a limited industrial base for many years. Furthermore, large parts of the region do not offer good prospects of supporting rapid growth in economic activity. There are very few large firms and a restricted range of skills and training facilities. Employment in agriculture is proportionately five times as high as the national average but is running down rapidly. It is difficult to see how, without major changes in government policy, sufficient employment will be generated within the region to provide jobs

for the projected increase in population;
/ earned incomes from employment are lower in East Anglia than in any other English region, lower than Wales, and only fractionally above Scotland. They are about 8 per cent below the average for Great Britain, and there are even more marked differentials of up to 12 per cent between certain counties of the region and the national average. The detailed analysis we have made in Part II shows quite clearly that, at most, a third of the total difference in employment incomes is attributable to a different economic structure in East Anglia, with its higher than average employment in agriculture. The largest part of the difference is due to lower than average earnings within comparable industrial groups. This disparity suggests that the demand for labour has not been growing fast enough to provide sufficient employment at national

earnings levels, and implies a relatively low standard of living. To bring average earnings up to something nearer the national average will require considerable industrial and commercial investment over and above that required to create jobs for the projected increase of population;

g the agricultural industry of East Anglia is one of the most efficient and important components of our national agricultural complex. The preservation of the role of agriculture in the economy of East Anglia, while meeting the claims of other kinds of desirable development, involves very difficult questions about land use. There is also the need to protect rural and historic amenity, because the region is an area of great natural interest and beauty, providing recreation and retreat for its own inhabitants and also for the large urban populations of adjoining regions.

4 Economic Prospects

18. We now attempt to quantify in employment terms the additional economic activity required to support the natural increase in population, to sustain the region's contribution to the London overspill programme, to offset the rundown in employment associated with greater productivity in agriculture, and to solve the problems of under-employment and low average income in the region. We try to assess the prospects of indigenous industrial growth and the chances of attracting extra industrial investment. Our judgments have been made in a period of great economic uncertainty, but we have assumed that conditions will be established that will allow sustained national economic growth.

20. We have attempted a detailed analysis* of the probable trends in the supply and demand for labour in the region as a whole up to 1971, taking into account the trends in different industries, the decline in agricultural employment, and the growth in local services associated with the increase in population. The main points which emerge are:

- a. Given the possible margin of error in both the supply and demand projections, it is not easy to draw any very clear-cut conclusions. Nevertheless, the estimates suggest that, over the region as a whole, the expected increase in the numbers of men seeking employment will probably be roughly in line with the rate at which new job opportunities are likely to be forthcoming. This would imply, for the region as a whole, no great change in the average pressure of demand for male labour.
- b. For women, the employment prospects seem rather different. Our information suggests that the expansion in job opportunities for women may well be rather faster than the increase in the number of women seeking work. Given our present assumptions about fertility rates, this would mean some shortage of women workers.

21. While not disregarding these regional conclusions, it has become obvious to us that neither geographically nor occupationally will labour demand always coincide with labour supply. Further calculations and investigations have

shown that between 10,000 and 13,000 new manufacturing jobs for men will have to be brought into the expanding towns between 1966 and 1971 to supplement labour demand from local industry, and a further number of manufacturing jobs (not yet quantified) to take up labour reserves in areas where there is unemployment and under-employment.

22. Over the longer period from 1966-81 we have estimated that the increase in supply of male labour is likely to be between 86,000 and 114,000, say about 100,000 men. As a result of the fall and subsequent rise in the birth-rate in the 1950s and early 1960s, a much more than proportionate share of that additional 100,000 will occur after 1971 and more particularly in the later years of that decade, with an equivalent requirement for jobs. We thought it unwise to attempt to forecast labour demand for 1971-81, but it is obvious that for that period close attention will have to be paid to the problems involved in finding jobs for such large numbers of men, of which the greater part (approximately three-quarters) will be in the New and expanding towns.

23. The arithmetic in the preceding paragraphs does not take account of the need to raise East Anglian earned incomes up to the national level. If income per head nationally were to rise by 3 per cent per annum, for East Anglian incomes to catch up in twenty to twenty-five years they would have to grow at an annual rate of 3.4 per cent—or 13 per cent faster on average—over the same period. The disparity has been narrowing in recent years; but, insofar as this has been due to the shift of workers from lower-paid agricultural employment to otherwise highly paid occupations, the scope for further narrowing becomes progressively reduced as the absolute numbers leaving agricultural employment fall. It might therefore be unwise to suppose that the disparity will be eliminated by natural economic forces in any reasonable length of time. In general, the present disparities in income can only be eliminated by further increases in output per worker through higher investment and technical progress, which will permit the payment of higher earnings.

24. The scattered settlement pattern, determined originally by the agricultural structure of the region,

*For detailed calculations see Part II, Chapter 3, paragraphs 321-325.

has lingered longer than elsewhere; it is not conducive to rapid industrial growth and leads to locational problems, unemployment and under-employment in rural areas. This settlement pattern is one of several limitations that must influence industrial policy. In employment terms, a significant proportion of the region's labour force is in agriculture, where rapid employment decline is accompanying structural and technological improvements. The manufacturing sector, which must generate a substantial proportion of the new employment required, is smaller than the national average, and much of it depends on links with agriculture, particularly the major industries of food processing and engineering. There is virtually no heavy industry in the region, and since such industry generally needs to be near raw materials, good communications, components and large existing centres, this situation is unlikely to change much in the future.

25. In our view it is not realistic to speak of balanced industrial structures in areas where the supply of labour is so small that one or two firms can absorb it all. Even in medium size towns there is not always room for choice in the type of incoming manufacturing industry which would achieve a reasonable rate of employment growth, a balance between male and female jobs and between occupations, and a range of capital and consumer goods industries. Because East Anglia has a relatively small labour force in manufacturing there is a rather narrow range of skills and expertise, which is unlikely to be rectified without further intensification of training measures. Workers leaving agriculture do not usually have skills of use in manufacturing industry. Though firms moving into the region are helped to bring their key skilled workers with them, a substantial proportion of employees migrating from London under the Industrial Selection Scheme are unskilled.

26. Most manufacturing establishments in the region are comparatively small in employment terms, and the new establishments which have recently come in have tended to be small. For instance, there are only 11 manufacturing establishments in the region with over 2,000 employees. For a long time to come, East Anglia will need larger industrial establishments. While there are many efficient small and medium size establishments in the region, the larger ones are usually more geared to lead in research and development effort, in the introduction of new products and methods of production and marketing, and in the quality and range of their training. They offer opportunities of economies of scale and of rationalisation and tend to provide greater stability, diversity and remuneration to employees.

27. We believe that industrial establishments will become more and more reluctant to go to small towns because they nearly all need a sizeable pool of trained or trainable labour, and town size is therefore an important factor influencing location and growth of industry. Only a few firms will willingly choose a rural location where they

can dominate the local labour market. The next most important demand is for good communications with suppliers and with markets. Firms also have regard to local educational and other social services, to the general impression created by the town centre and environs, and to the attitude of the local community to industrial growth.

28. Each of the existing small town development schemes is an important growth point in its own locality; taken together, they are committed to accommodating a substantial proportion of the overspill total. On the whole, they have managed with the help of Greater London Council inducements to obtain new industry to keep in reasonable balance with the supply of population and housing. However, this has not been an easy process, and they must now face added competition from Development Areas and from larger town expansions such as Peterborough, Ipswich, Milton Keynes/Northampton and South Hampshire. In comparison with the major schemes, the small towns have some inherent disadvantages. For incoming industry, they are often remote from markets, suppliers and specialist services, and the labour force available is small and not diverse. For employees and their families, there is a comparative lack of social and recreational amenities and a relatively narrow choice of employment, particularly in office and service occupations. These towns are often economically rather vulnerable to abrupt changes in the prosperity of their industries and administratively liable to dislocations in phasing by quite small business decisions. Unless the country as a whole achieves a steady growth rate well above recent trends, some of these smaller schemes are likely to be hard-hit. The fact that prospects are not as good as had been hoped cannot be wholly attributed to the general economic situation or the enhanced inducements in Development Areas. We think that it is at least partly due to the somewhat haphazard way in which these towns emerged as a result of the permissive nature of the 1952 Town Development Act.

29. It is government policy that firms in the region must always be pressed to transfer expansion projects to Development Areas, but nevertheless the administration of the distribution of industry policy has not operated more harshly on East Anglia than on other similar regions in recent years. *Prime facie*, however, it seems likely that some firms in the region have chosen to establish new projects in Development Areas without bothering to apply for industrial development certificates in East Anglia, mainly because of inducements offered elsewhere, or because they consider that fairly stringent controls are being applied in their area.

30. However, the Council must now register some apprehension. In recent years East Anglia has been committed to a large-scale population increase while at the same time there has been both a substantial accumulation of incentives and a stiffening of steering policy to promote employ-

ment in the Development Areas and their special development districts. These enhanced incentives are bound to be extremely attractive in the next few years and we have already heard opinions that they have tipped the balance against rapid employment growth in East Anglia. Added competition from major expansions outside the region for the limited supply of mobile industry forces home the conclusion that East Anglia will have to look increasingly to its own industry to generate

new employment opportunities. If growth in employment nationally is slow or fluctuating, the least prosperous areas of the region and the expanding towns, and even the New Towns, could encounter serious difficulties. The recent national economic situation has shown that certain of the present town expansion schemes are vulnerable; the net losers in any deceleration of the over-spill programme are the many London families whose chances of rehousing will be delayed.

INDUSTRIAL POLICY

31. We have shown that in the period up to 1971 additional employment will have to be provided in the expanding towns. For the 1970s an increasing flow of new industry will have to be brought into the region, points of growth and existing industries generally will have to be fostered, and the expansion of larger establishments will have to be encouraged if sufficient employment is going to be available for the rapidly increasing indigenous population and if the planned expansion schemes are to succeed. Distribution of industry policy must be flexible and realistic enough to permit this.

32. A committee under Sir Joseph Hunt is examining the situation in areas where the rate of economic growth gives cause for concern, and we have already drawn its attention to the problems of our 'grey' areas, where we believe that positive measures are needed to generate economic growth.

33. After the committee has reported, the Government should review its distribution of industry policy generally, and we think it essential that the whole of the East Anglia region be included in this review. Industrial development certificates are not granted anywhere in the region for projects which can reasonably be expected to be carried out in a Development Area. With the exception of Norfolk there is at present no clear differentiation in distribution of industry policy between East Anglia and regions showing congestion and severe labour shortage. We would expect the Government to make this distinction quite plain and freely to allow the growth of indigenous industry to provide a stronger structure and to reduce the need for mobile industry from London.

34. In particular, we consider that in the expansion of Peterborough and Ipswich, existing firms should be allowed to expand, provided reasonable balance between industries can be maintained. A major consideration in selecting these towns for expansion was their potential for self-generated industrial growth. We do not think it would be logical to divert this growth to Development Areas and then to try to attract generally small industrial units from London. This would be bound to slow

down the rate of expansion. In addition, it would also double the industrial and social movement costs and would prevent the growth of larger establishments which the region requires. Moreover, our few medium and large establishments might be the most capable of building branch units in neighbouring rural towns, thus helping to solve unemployment problems there while conserving scarce managerial and technical resources and economising on common services.

35. Similarly, any firm persuaded to undertake the considerable upheaval of making the economic contribution of a move to a New Town or to an expanding town should thereafter be allowed to expand in its new location in scale with the industrial needs of the town, subject to local authority agreement.

36. New industries for Ipswich and Peterborough will in part be competitive in labour demand terms with existing industries. In order to assist orderly industrial growth and to try to avoid dislocations in the skilled labour market, we have already recommended that the Development Corporations for Peterborough and Ipswich should be effectively staffed to deal with questions of industrial expansion and balance, manpower forecasting, labour recruitment and training, and to establish close liaison with industry and commerce, government departments and bodies such as industrial training boards.

37. Meanwhile, we are discussing with the South East Economic Planning Council its proposal that for each major overspill scheme there should be an interdepartmental team responsible with development corporations and local authorities for regularly reviewing the rate of provision of housing, employment and social amenities.

38. A great amount of the employment growth in the overspill towns has been due to the second priority given to them after Development Areas for firms moving out of the Greater London Council area. Firms outside the Greater London Area are not usually given the opportunity to move to an overspill town. We support the recommendation of the South East Economic Planning Council that this second priority should be extended to firms in the Outer Metropolitan Area.

39. We recommend that the progress of the smaller expansion schemes should be related more closely to the rate of actual job growth, which may well be slower than the potential rate of house-building. More effective consultation and co-ordination between the local authorities and government departments concerned are necessary if the towns are to meet or approach their population targets in the long term. Those existing town expansion schemes which are not on solid bases for rapid industrial growth may well need to be able to offer some positive inducements over and above factories and housing priority, for example, by being granted some exemption from the recent restrictions on loan sanction.

40. We have already referred to the importance of a review of distribution of industry policy generally: we wish to be assured that all these recommendations will be fully considered in the context of this review, and that this will be done quickly so as not to hold back the development of the region.

Office development

41. The present Government has introduced licences for new office developments in all regions south of the Wash, except the South West, in order to check the continued growth of offices in southern England (especially London and Birmingham), to relieve congestion, and to secure a better distribution of employment and use of resources. This control has applied to East Anglia since 1966; since July 1967 it has been applied only to projects over 10,000 sq. ft. (about 80 jobs). Projects which had received planning approval before the control have been allowed to be completed, and the Board of Trade informs us that a number of projects for local needs have been approved under the control regulations and that the amount of office building refused in East Anglia has been small.

42. We find it very difficult to understand why our region is included within this control, as we do not suffer from the congestion and the other problems which are given as reasons for its application. In fact, the economic features seem to require more office employment rather than less. First, the proportion of our economically active population working in offices is below the national average. Unfortunately, we have no figures later than the 1961 census when, in East Anglia, 14 per cent of the economically active population worked in offices, compared with 18 per cent in England and Wales and 23 per cent in South East England as a whole. At that time East Anglia had the lowest percentage of office workers for any region now within the control. It seems unlikely in view of the emphasis on manufacturing employment in expanding towns that this disproportion has been lessened since 1961.

43. Secondly, we are one of the few regions with an expanding population of working age. Assuming that about one-fifth of the employed population will work in offices, then between 1966 and 1981 about 38,000 more people in East

Anglia might be expected to seek this type of employment. Some jobs will be provided in offices arising in new manufacturing industry and in the local service industries, but there will be a need for further office work in the region, mainly in the large centres but also wherever possible to provide a more balanced employment structure in the smaller town expansion schemes. Office employment would be particularly advantageous, as it is an expanding and stable sector of the economy.

44. Thirdly, we believe that, given the opportunity, certain locations in our region can attract office development. Having in mind the experience of the Location of Offices Bureau that most offices with ties in the South East can move only limited distances, it would seem that East Anglia can make a contribution to the relief of office congestion in London. East Anglia's advantages for office development are likely to increase in the future, and therefore some speculative office building should be allowed as an inducement to firms to move. Physical distances between the major centres and London are comparatively short, and further improvements are expected in communications. The expansion of Ipswich, Peterborough and possibly Norwich should improve their office ancillary services and enhance their efficiency as office locations. At the same time, the expansion of the office community in the main centres should sustain wider improvements in town centre amenities and services.

45. In view of all these considerations the Council sees no point in maintaining or appearing to maintain the present control on office development in East Anglia and recommends that it should be lifted immediately.

46. We also recommend that the region should continue to be accepted as a reception area for the dispersal of government department offices, and that the amount of dispersal to East Anglia should be increased.

Training

47. The expansion of industrial activity, particularly in the New and expanding towns, the raising of the proportion of workers in manufacturing, and general technological advance all emphasize the need for measures to increase the supply of skills.

48. Forecasting of supply and demand for skills is still at a rudimentary stage nationally, but it is vitally important for impending shortages to be roughly measured and forecast in regional or sub-regional terms. In view of the time necessary for training to increase supply. Reasonably accurate information on the degree of shortages constraining growth would provide a fair basis for changes in practice.

49. The supply of new skilled labour will be broadly influenced by the industrial training boards which are being established to cover all important industries, but the full implementation of the 1964 Industrial Training Act will take several more years to work through all parts of the economy. We hope

that the training boards will be quick to sense the regional problems, and we welcome the decision by some boards to set up regional organisations. We recommend the boards to take special measures to increase training and re-training in line with regional forecasts of demand for skills.

50. The acquisition of a skilled and sizeable labour force will no doubt be helped by any measures which will accelerate the training process. The training programmes being prepared by the industrial training boards will, we hope, lead to changes in the existing pattern of apprenticeship and craft training, so that entrants to industry can reach skilled status in a shorter time than at present. We recommend that apprenticeship training should be re-examined with the particular problems of the region in mind.

51. Special attention must be paid to the increasing need for the re-training of adults. In particular, agricultural workers displaced by technological advance will include men in the older age groups, but we see no reason to suppose that they will be any less adaptable than workers of similar age from other industries. The new Government Training Centre at Norwich will help in some measure, and no doubt the Department of Employment and Productivity will consider in due course the need for centres at Ipswich and Peterborough. Training problems belong primarily to industry, however, and it is for industry to devise solutions in conjunction with the industrial training boards.

52. The Construction Industry Training Board has established its national centre for off-the-job operative training at Bircham Newton in Norfolk. Good examples of co-operation by firms in group training schemes are provided by the centre for training welders at Great Yarmouth and by the East Anglia Group Industrial Training Centre at Norwich for craft apprentices in engineering trades. The development of schemes generally has been disappointing, bearing in mind the grant incentives available. This is surprising in an area in which there is a high proportion of smaller firms. Such group schemes might offer a solution to employers who are unable to provide full training within their own establishments, and we recommend employers' associations to give further encouragement to these schemes.

53. The high rate of occupational change in East Anglia compares with that in Development Areas. We therefore recommend that the very sensible assistance which the Department of Employment and Productivity gives to firms for training for additional jobs in Development Areas should be extended to East Anglia. These measures include short-term grants of £10 weekly for men and £7 weekly for women for training to semi-skilled level for new jobs, to help firms to man up and train for production processes; grants towards the capital cost of machinery and premises for training purposes, in addition to industrial training board support for craft training; or per capita grants where training is on-the-job; courses for supervisors and instructors, and free services of Ministry

Instructors for training in semi-skilled and engineering trades or allocation of government training centre places.

54. We approve all these measures; for East Anglian purposes we regard the weekly grants and capital grants as particularly important. These measures are especially necessary where wage-related redundancy payments are likely to be low.

Management training

55. The need for better management training has aroused much attention nationally in recent years, and it is clear that most firms are aware of the need to introduce and develop more advanced techniques for controlling and adapting their operations, though some smaller firms may still be sceptical that the benefits available justify releasing members of their management teams for training courses. Fortunately, the question has been put into perspective by the report of the Central Training Council's Committee on Management Training and Development, which defines and describes features of training, external courses and career development*.

56. There are no schools of management technology in the region, and both full-time internal courses and shorter courses for middle management are needed. These would spread detailed knowledge of modern aids to management, such as operational research, advanced work study and computer programming and controls; they would also enhance the interchange of ideas between firms and between industry and educational institutions.

57. The Council is consulting the universities, the Regional Advisory Council for Further Education, the British Institute of Management and other organisations on the complex question of providing formal management education courses at various levels within the region.

Special measures for 'grey' areas

58. In preparing evidence for the Hunt Committee, the Council has made a special survey of the economic and social circumstances of two rural areas of the region, North Norfolk and the old Isle of Ely, as examples of the kinds of problem which may be found in certain parts of the region.

59. The problems appeared to be closely interconnected. The persistent decline in male employment, particularly in agriculture, leads to some unemployment, probably considerable underemployment, very low earnings, some net outward migration and an increasing number of long journeys to work. A number of social problems are directly related to the changing pattern of settlement size and function, including the difficulty of providing viable community services.

60. One solution which has been suggested is to allow towns and villages in these areas to become increasingly dependent for employment on the major cities. This would involve slow, extensive

*An approach to the training and development of managers, HMSO 1969

and costly commuting over long distances, which would not be a practicable possibility for lowly-paid manual workers. Equally, it would not be feasible to promote manufacturing growth in a large number of small towns. We have therefore recommended to the Hunt Committee the development of a few selected employment sub-centres to provide employment for surrounding areas. The scale of the problem is small, and the amount of new industry needed would not be prejudicial to the overspill programme or to the Development Areas.

61. It will be difficult to attract industry even to this limited number of employment sub-centres. We do not think a further relaxation of industrial development certificate policy alone would provide sufficient industry; other specific industrial help is needed. We recommend for the selected centres that there should be advance provision of standard factories, building grants at the same rate as in Development Areas and a higher rate of investment grants.

CONCLUSIONS ON THE OVERSPILL PROGRAMME

62. Even if our recommendations on industrial policy and improvements in communications and other infrastructure are broadly accepted and implemented, they will only cope with the population increase at present in prospect for the region. Therefore, we must conclude that efforts should be concentrated on ensuring the success of the two major expansion schemes and of the smaller town development schemes now in operation, and on adapting the settlement pattern to modern needs.

63. We recommend that no further proposals for increasing the overspill programme should be approved, with the two exceptions of Norwich and Thetford. We support the proposal for a moderate extension of the Thetford scheme, which has shown good progress: the town has benefited from relatively good communications and serves a wide hinterland. We also support the proposal for some 30,000 Londoners to be brought into the Norwich area, which is well able to provide the industrial and social requirements set out earlier.

64. There are many market towns which cannot provide a satisfactory range of community facilities necessary for a full and satisfactory life and where employment opportunities can never be broad. But we do not regard new overspill schemes as the correct solution to these problems, and we advocate instead the selection of a very limited number of these towns to provide employment and social facilities for a wider hinterland. The Council's views on the strategy for future population distribution are given in Part I, Chapter 6.

TRANSPORT AND COMMUNICATIONS

65. A most important prerequisite to continued

industrial and population growth is a greatly improved basic communications system.

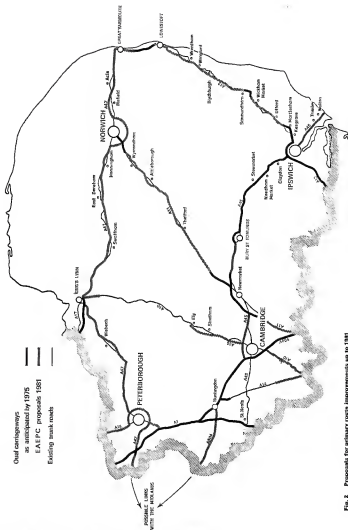
Roads

66. The Council has repeatedly advised the Minister of Transport that the capacity of the road system is quite inadequate for the traffic it carries today. We have urged that the Government should give a much higher priority for road investment in the national allocation of resources, and maintained that East Anglia's share is disproportionately low. Furthermore, unlike most regions, East Anglia does not get any share of the separate public investment allocated to motorways. We do, of course, recognise the serious economic difficulties facing the country at the present time and the consequent need to restrain public expenditure, but unless there is a very much larger investment in the improvement of roads than has been announced so far, the economic development to which the region has been committed will be retarded. The Minister has assured us that present methods of investment appraisal are being re-examined to see whether regional needs could be taken more fully into account, and that the importance we attach to the prior existence of adequate communications as a condition of new development will be borne in mind. We would expect to have further discussions to see how far special regional factors can be taken into account. We have been glad to note that most of our previous recommendations to the Minister on road priorities have now been incorporated into the 'preparation pool' of trunk road schemes.

67. In addition to the implications of the population growth, there are a number of special factors which add to the pressures on the roads. The freight traffic generated by existing and future industry requires speedy access to its markets, supplies and ports. Furthermore, there are as yet no freight liner terminals in the region. Car ownership in East Anglia is above the national average because of the dispersed population, and we expect a more than proportionate increase as incomes rise to a level nearer the national average. The growing tourist and holiday trade will also add to road traffic. Industrial growth will be concentrated in a few centres and will have to draw on rural labour catchment areas heavily dependent on road communication.

68. If new industries are to be attracted to East Anglia and existing industries enabled to expand to fulfil employment needs, they will have to be convinced that their costs, including transport, will be sufficiently competitive to sustain them. Transport can be an important element in selling costs, and road delays will deter firms for whom the transport costs would be substantial from coming into the region.

69. The East Anglia Consultative Committee (EACC) has provided us with a valuable appraisal of the road programme required in the region up to 1991 and beyond. This is based on calculations of the traffic flows which will be generated by the



increasing population. We have broadly accepted its recommendations of road requirements up to 1981, and these are the basis of the road network set out below which we regard as the minimum required to meet the region's needs. The network is illustrated in Figure 2, which also shows how the system is connected with other regions.

Motorways*

70. East Anglia, unlike many other regions, does not and will not have the advantage of a national motorway route passing through the region. The western and southern parts of the region will be served with good road links to London by means of A1, M11 and A12. The Council has examined the proposition for a possible east-west motorway from the southern regional ports to the Midlands. The Ministry of Transport states that even after augmenting the forecast of general increase in traffic to allow for additional traffic which may be attracted to the improved parts of East Anglia, the total traffic to be expected on A45 between Ipswich and Felixstowe and the Midlands by 1980 is not likely to exceed the capacity of a road with dual two-lane carriageways, except at Cambridge, Newmarket and Ipswich/Felixstowe. Such roads can be constructed on the present alignment at an estimated cost of about £500,000 per mile, excluding land cost, with diversions and by-passes where unsatisfactory alignments and built-up areas make these necessary. The provision of a motorway across East Anglia would cost approximately £750,000 per mile, excluding land cost, and would use more agricultural land.

71. We therefore agree with the conclusion of the EACC that neither an east-west nor a north-south motorway is required before 1981, on the clear understanding that the alternative improvements set out below are implemented. Even after 1981 it is doubtful on present showing whether a motorway would be justified, although it is recognised that in the vicinity of major expanse some duplicate roads designed to motorway standards might be needed.

Trunk road proposals*

72. The EACC estimates that in 1965 over half the 380 miles of rural trunk roads in East Anglia were carrying traffic volumes which were between 20 and 100 per cent in excess of their desirable maximum capacities for the safety and free flow of traffic, calculated on the basis of the provisional standards being considered by the Ministry of Transport for new roads. By 1971 all the trunk roads, except the lengths of dual carriageway on the A1 and A12, will have become in that sense 'overloaded', unless by then they have been enlarged.

73. Improvements in the past have been concentrated on north-south lines of communication converging on London, but the beneficial effects of these links will be diminished if the north-

eastern approaches to London cannot absorb the traffic flowing into the capital. We therefore support the representations of the South East Economic Planning Council for better roads in that part of London.

74. North-south routes across the region are provided by the A1 on the western side, the A10 from King's Lynn to Royston, and the A12 Greet Yarmouth-Ipswich-London route on the eastern side; all these routes will have to be considerably improved and in some cases dualled.

75. An east-west route from Felixstowe and Ipswich to the Midlands would be an improved A45, provided this were suitably connected beyond the East Anglia boundary to the national motorway network. Such a route is dependent upon the provision within the region of by-passes at Welton, Trimley, Needham Market, Stowmarket, Bury St. Edmunds, Newmarket, north of Cambridge and at Huntingdon and improvements of the intervening lengths. As will be seen from Appendices 19 and 20, all these are already programmed or in preparation for completion by the middle 1970s, except the Cambridge northern by-pass.

76. Similarly, an east-west route across the northern part of the region would be from Greet Yarmouth along the line of the A47, with by-passes at Blofield, Acle, East Dereham, Swaffham, King's Lynn and Wisbech and the improvement of the lengths of road between them and the ring roads around Peterborough and Norwich.

77. A route running north-east and south-west across the middle of East Anglia, linking the region with London, would be provided by dualling the A11 from Norwich to the proposed M11, with by-passes at Wymondham, Attleborough, Thetford and Newmarket.

78. A western by-pass of Cambridge is necessary to remove through traffic from the centre of the city. The importance of this route would increase with the completion of M11 to Stump Cross. It would also be used by traffic from the east Midlands and the North going to the east side of London.

Traffic congestion in urban areas

79. Urban congestion is so endemic that its economic cost is seldom appreciated, but it is expected to justify the construction of new, high standard, primary urban road networks for the traffic generated locally and for the distribution of goods traffic. This will require investment of many millions of pounds, Ipswich and Peterborough are likely to be provided for under the arrangements for New Towns, but Norwich, Cambridge and other towns present special problems.

Public investment

80. The EACC has estimated that the cost of the improvements necessary for eliminating overload on the rural trunk roads would be £160 million over the period 1967-81. We have been advised by the Ministry of Transport that, if the present

*See Glossary.

degree of congestion were regarded as acceptable, the cost might be of the order of £140 million. Corresponding estimates for other main urban and rural traffic routes imply expenditure of £135 million or £110 million, including the 25 per cent provided by local authorities, but excluding the special provision for New Towns at Ipswich and Peterborough. The total expenditure implied is thus £295 million or £260 million.

81. The EACC estimated that the actual total public expenditure up to 1974 might be about £45 million on the basis of schemes already announced for preparation or implementation. If allowance were made for schemes which might subsequently be introduced, this estimate up to 1974 would be too low, but unless there were a major and sudden change in government policy the increase would be unlikely to exceed £10 million. If this rate of expenditure were maintained until 1981, total investment on improvements to main traffic routes would amount to £110 million.

82. This implies that if the needs as assessed above were to be met, total public investment on roads over the period up to 1981 ought to be some two-and-a-half to three times more than what seems likely given present trends and policies. Substantial additional investment in Ipswich and Peterborough will also be required. Given the probable limits on the overall growth of public expenditure in the next decade, it is clear that even if East Anglia's share in the national road programme is substantially increased, as we have recommended, it would be unrealistic to suppose that it will be possible to finance the whole of this programme. This means that the region will have to face growing congestion both in urban centres and on major routes. This will be a severe obstacle to successful economic expansion.

83. We therefore recommend:

- a a substantial increase in the finances available from central Government for the roads in East Anglia;
- b that the major local authorities should similarly increase their financial provision;
- c that the Ministry of Transport and the local authorities concerned should examine the scope for adjusting the balance of total roads expenditure, so as to secure the maximum for the more urgently needed major improvements by allocating proportionately less for other work;
- d that when we have some clear indication of the probable finance available, the Council should examine the priorities to be attached to different projects.

84. It has been suggested to us that the imposition of tolls would be an additional means of financing the road programme. The present policy is to restrict tolls to certain bridges and tunnels, and we do not consider that it would be satisfactory to extend the system to roads in East Anglia; many access points would be needed, and the costs of collection would be disproportionately high in relation to revenue.

Carriage of goods by road

85. We would wish to be assured that the restriction imposed by the new Transport Bill upon the use of large goods vehicles for journeys of over one hundred miles will not hamper East Anglian industry and farmers, or discourage firms from coming into the region. For instance, agriculturalists and horticulturalists have expressed apprehension that this restriction will add appreciably to their costs and destroy their operating flexibility.

Railways

86. We have become increasingly concerned about the cumulative effect of British Railways' proposals for the withdrawal of individual passenger services, some of which have already been implemented. They would, if the Minister of Transport's consent were given, mean that a very large area in the northern part of the region would be deprived of local rail passenger services. On some of the lines concerned, British Railways have already withdrawn some freight services. The absence of railway passenger and freight services over such a large area would be liable to make the area less attractive to industry than places in close proximity to the railway system, thus militating against growth in the northern part of the region.

87. We recommend that all lines already proposed for closure should be reconsidered by the Minister when examining the social and economic benefits of grant-aiding unremunerative rail passenger services.

88. We attach importance to the need to enable more freight to be diverted to the railways from the major roads in the region, and the Minister has been asked to urge upon British Railways the great need to provide competitive freight services in East Anglia.

Ports

89. The long term future of any port will inevitably depend on the strength of its appeal to the commercial judgment of shippers and shipowners. This itself will be a matter first of how its location happens to fit in with the changing pattern of international trade; secondly, of how suitable its existing nature or other characteristics make it to cater for the evolving techniques of transport by sea and land, such as the trend for ocean freight to be conveyed by bigger ships requiring longer berths and deeper water at ports of call, and the intensive use of unit-load cargo systems, requiring extensive areas for mechanised handling; and thirdly, of how attractive are the services and facilities which it offers as a result of investment. Against that background, decisions concerning port development in East Anglia, whether by individual port authorities or a controlling body, should be guided in each instance by a realistic assessment of prospective traffic, arrived at in consultation with all the commercial interests concerned; such decisions should take into account the overall economy obtainable from a

degree of specialisation among small ports, as against the provision of a wide range of facilities at each.

90. On the above basis, we would consider it right for the country to take increasing advantage of the specially favourable position of the Scaur/Orwell estuary for serving United Kingdom trade with north-central Europe. In our judgment, national economic benefits should also accrue from associating with that short sea traffic services for deep sea trade, especially in view of the enterprise and efficiency already demonstrated in the Haven Ports complex, and their admirable labour relations record. We would expect the future of the other ports of the region to be in services to a limited, regional hinterland, making the most of the ability of small ports to deal with small ships expeditiously, achieving quick turn round and fast transit of goods.

Civil aviation

91. There appears to be no justification or need for a major regional airport to serve East Anglia, particularly if a third international airport is situated to the north or north-east of London. The amount of regular international traffic in the region is likely to be small and the needs of these travellers are adequately met by the existing airports at Luton, Southend and London. There is a need to encourage air services from Norwich, Cambridge and possibly Ipswich to London, for connections abroad, and for domestic 'bus-stop' services to the Midlands and the North. There will also be an increasing demand for airports capable of accepting business executive aircraft and, in the longer term, freight services and medium range scheduled air services to and from northern Europe.

92. East Anglia can best be served by modest development of the existing airports. Ipswich can be developed to a limited extent and should continue to serve the immediate area. The development of Norwich airport will meet the requirements of the whole of the eastern and north-eastern section of the region, while Cambridge is available to meet the need of traffic in the western area. There is a lack of facilities for executive and private flying in the north-west of the region, and plans for an airfield serving the Peterborough area deserve support. There may also be a seasonal demand for inclusive tour and holiday traffic.

93. Obviously the airport requirements of the region need to be kept under review, particularly in view of the New Town developments on the boundaries of the region. This will follow as the strategy for the region becomes more clearly defined. It is quite clear that in the long term there is a need for the maintenance of adequate airport facilities and it is hoped that under the terms of the 1981 White Paper* government assistance will be provided. This is particularly important in this region, where some necessary air services

will be difficult to justify on purely economic grounds in the early stages.

POWER SUPPLIES AND NORTH SEA GAS

94. We have accepted the advice of the Ministry of Power that future supplies of all fuels and power are likely to be sufficient for all foreseeable industrial demands. Of particular interest are the economic implications of the discovery of North Sea gas. It has been suggested that the North Sea gas finds would offer good prospects for industrial expansion in the northern part of the region. The economic and technological prospects are still unclear, but on the basis of the advice and considerations put to us so far we do not think that the region can expect this new source of fuel to give us material advantages over any other region, with the important exception that its advent will help to offset the price disadvantages which have resulted from remoteness from other primary sources of power.

95. Under present policy the Gas Council will supply natural gas at uniform prices, subject to variations for load factor, to all area gas boards. We are awaiting the outcome of the second report of the National Board for Prices and Incomes on problems of pricing policies, but it appears that the price of natural gas in East Anglia, as compared with other regions, would not be advantageous unless the Eastern Gas Board were to introduce a tariff with a markedly wider differential between industrial and domestic consumers than any other area board. Even if this were so, fuel cost is only a significant location factor for a limited range of industries.

96. There remains the possibility that industrial complexes can develop in Britain, using the gas as a chemical feedstock. More economic investigation of this is needed. It appears to us that legally any concern which owns a North Sea gas concession could use or sell the gas as a petrochemical feedstock, but it seems unlikely that any such concern would select Norfolk as its base. These complexes are based on products from large petroleum refineries, and the crude oil imports depend on the use of very large tankers requiring deep-water berths; direct employment at these complexes is quite small. The use of gas by the large integrated chemical complexes already existing on the east coast at Grangemouth, Teesside and South Humberston would appear to be a more practical economic prospect, since it would be cheaper to take the gas to existing facilities rather than bring new facilities to the gas.

97. The pace of technological change in the utilisation of natural gas is likely to be considerable, and future developments may well have further implications for the region.

98. We think that the majority of people in the coastal towns of Norfolk and East Suffolk—and many people elsewhere—would accept our conclusions because they would be reluctant in any

*Civil Aviation and Air Navigation Services: Cmnd. 1487 HMSO 1981.

event to allow the considerable loss of amenity to the nation as a whole which such a development would make inevitable.

WATER SUPPLIES AND THE WASH BARRAGE

99. A general note about water supplies and demands in East Anglia is contained in Part II, Chapter 9. We deal here with the idea of using the Wash as a fresh-water reservoir. This idea was examined in a report on the water resources of the Great Ouse Basin prepared for the Ministry of Housing and Local Government in 1966 by Binnie and Partners, consultant engineers*. The Water Resources Board 1966 report¹ recommended a full feasibility study of a barrage at an estimated cost of £1½ million.

100. The Council expressed its support for this recommendation. However, the Government decided that the right course would be to give priority to groundwater investigations and not to authorise the feasibility study in the meantime, although the situation would be kept under review. Pilot studies had already been started on the prospects of obtaining substantial groundwater supplies; these, together with surface reservoirs, were expected to meet demand for the next twenty-five years.

101. Some members of the Council are apprehensive about the loss of good agricultural land under reservoir schemes already proposed, and fear that if the pilot groundwater studies prove negative there is a risk of water shortages or undesirable stop-gap measures, such as further surface reservoirs while other sources are being investigated. There are also wider arguments about the additional economic benefits which might be obtained from a barrage. The cost of water supply is the main factor in comparing alternative methods of supply and conservation, but we have stressed that a thorough study might be made of the additional costs and benefits. Undoubtedly, the transport, amenity and land reclamation issues will become clearer as the current economic studies on the Ouse and Morecambe barrage proposals proceed.

102. In September 1967 the Water Resources Board submitted to the Minister detailed proposals for a desk study of a barrage as a necessary preliminary to a feasibility study. The desk study would give a clearer idea of the cost of a feasibility study and also of the economics of using the Wash for water supply, possibly in less ambitious ways than that suggested in the Binnie Report. We fully supported this limited proposal, and we are very glad that the Minister has accepted it.

SOCIAL SERVICES

103. We have made a preliminary survey of the structure of the education, health and some of the

other social services in the region, and the main features are set out in Part II, Chapters 10, 11 and 12. However, we have not been able to make a systematic examination of the problems of these services in anything like the same detail as we have of the problems of industry and transport or the location of population, and we do not therefore wish to comment at this stage on overall regional policies in these fields. However, there are a number of specific issues which have emerged from our study which we think are of immediate relevance.

Education

104. One of the most striking features is that the proportion of pupils who stay on at school, their success in gaining entry qualifications to higher education courses and the extent to which they go on to take higher education courses all fall below the national average. This has a number of important implications. First, in proportional terms, it means that the raising of the school leaving age will create a considerably larger extra demand for school places in East Anglia than in the country as a whole. This demand will be further reinforced by the very rapid increase in population. The school building programme for the region as a whole will need to be looked at in the light of these trends. Secondly, the apparent lack of public interest in higher education may have its roots in the limited educational opportunities available in some rural primary schools. Therefore further special measures may have to be taken to ensure that children attending certain rural schools are not at an educational disadvantage. We have in mind such measures as those recommended by the Plowden Committee². Thirdly, young people in the region need a great deal more encouragement to take full-time and part-time further education courses from their local authorities, teachers, employers and parents. Firms should help their young employees to take sandwich courses, and where travelling is a problem they should allow employees to take block-release courses.

105. The Government's plans for the establishment of a limited number of major centres of further education, in which the bulk of the advanced level courses will be provided, do not at present include designation of a polytechnic in East Anglia³. We have been disturbed by the Government's intention that the present list of polytechnics should remain unchanged for ten years. We consider that within a much shorter period the development of advanced courses, for which the entry qualification is 'A' level GCE or equivalent, to meet the growing needs of industry and commerce in East Anglia may well justify the designation of a major establishment in the region as a polytechnic, and we would like to receive an assurance that there will be opportunity to review the position in not more than five years' time.

*Report on the Water Resources of the Great Ouse Basin, 3 volumes. Ministry of Housing and Local Government, 1966.

¹Water Supplies in South East England. HMSO 1966.

²Children and their Primary Schools. HMSO 1967.

³A Plan for Polytechnics and Other Colleges. Cmnd. 3008. HMSO 1968.

Health

105. The regional health and welfare services are of concern to us, as they are an important component of the social infrastructure which is essential to the satisfactory development of the region. Up to now we have been looking at these services mainly in the context of the public expenditure programme for the region. The numbers, age structure and distribution of population are important factors which the Regional Hospital Board must take into account in preparing its ten-year rolling programme, and we have been assured that the recent cuts in public investment have not affected this. We have not yet had an opportunity to examine in detail the extent to which this public investment programme is sufficient to meet the growing needs of the region and its changing distribution of population. Nor have we yet been able to assess whether the general criteria which are used for calculating the scale and pattern of services to be provided are appropriate to the special problems of East Angles.

107. The present shortage of doctors is, of course, general throughout the country, and the Royal Commission on Medical Education has recently reported on future training requirements and the question of new medical schools*. At present there is no undergraduate teaching hospital in the region. The Royal Commission recommended that an undergraduate clinical school be established at Cambridge in association with the existing departments of pre-clinical medical sciences and the post-graduate facilities. They concluded that few places in Britain can provide the population, hospitals and university development that are needed to support medical schools, if, in the long term, the University of Cambridge were to decide against adding clinical teaching on a substantial scale, we would support the Commission's suggestion that the clinical resources in East Angles as a whole might well be sufficient to support a new medical faculty at Norwich associated with the two main Norwich hospitals.

LEISURE AND TOURISM

108. Increasing leisure time, income and mobility are altering the patterns and levels of recreational demand. The evidence from Britain and other highly industrialised countries indicates that very great increases can be expected in participation in such activities as driving for pleasure, picnicking, sightseeing, walking, swimming, boating and attending or joining in sports and cultural activities.

109. These expected changes in leisure patterns and the use of amenities are very important for East Angles. Not only does the region provide for those kinds of leisure pursuit and holiday-making which are the most rapidly expanding, but it also has areas of great natural beauty and interest. The region may therefore expect a great increase in the demand on these resources.

110. This growth must be seen in relation to the

growth of industry which we believe to be necessary, and also in relation to the fact that approximately 72 per cent of the land surface of the region is devoted to predominantly arable agriculture. There is some conflict of interests here and we intend to examine this problem in our future work.

111. It is necessary to separate from the leisure and amenity problem two separate sets of interests. First, there are the needs for leisure and recreation of the inhabitants of the region. Secondly, there are the requirements of the holiday-makers and visitors coming into the region. These two sets of interests are in harmony to the extent that they both imply the need to provide a higher level of facilities for leisure and amenity than exists at present, but they are in conflict to the extent that the more attractive the coast and countryside become to people from other regions, the greater will be the inconvenience and loss of amenity and facilities caused to those living in the region.

112. The points made in the preceding paragraphs indicate the need for an integrated policy for leisure, tourism and amenity at the regional level. We do not at present have the detailed information which would enable us to outline such a policy, but we welcome three developments which lead in that direction:

- a the provisions of the Countryside Act, especially the creation of a new Countryside Commission, and Exchequer grants towards approved new facilities and services;
- b the work of the Eastern Sports Council and other associated bodies in surveying the facilities for active outdoor pursuits and assessing the needs for new facilities. We regard this work as complementary to our own;
- c the tentative proposals made in various quarters for an Arts Association for the East Angles Region.

We attach great importance particularly to the first of these points, since we think it could lead to the greater provision of strategically placed country parks and picnic areas and so draw holiday-makers and others away from conflict with agricultural and industrial land use.

113. In Figure 3 we have depicted our preliminary views on areas of the region which are of particular amenity value. The potential 'Areas of Outstanding Natural Beauty' suitable for special procedures include two tracts along the North Norfolk coastline, the Broads, the hinterland of the East Suffolk coastline, Dedham Vale and Thetford Chase. Other countryside of high scenic quality includes a tract running through the southern part of the counties of Cambridgeshire and the Isle of Ely and the Suffolks (continuous with areas south of the regional boundary in Bedfordshire, Hertfordshire and Essex), and a tract east of the A140 in East Suffolk and Norfolk which adjoins the East Suffolk coastline and the Broads. Also shown are opportunities for inland and coastal water recreation, coastal resorts and top quality agricultural land.

*Royal Commission on Medical Education 1965-69 Report, Cmd. 3669, 1969-70.

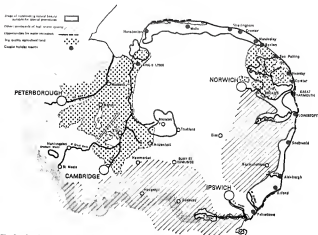


Fig. 3 Landscape and recreation

114. We think it would be useful for the local planning authorities in the region to discuss common criteria by which areas may be designated as of 'Outstanding Landscape Value', as this would help in safeguarding visual amenity when future patterns of development and growth are being considered. In general, we think that amenity considerations should be given full weighting with other costs and benefits when considering new developments. In the countryside areas, walking should be encouraged by improvements to the footpath network, but for motor traffic in leisure areas policy should be to ensure safety rather than speed and directness on country lanes. Visitors should be encouraged to walk into the countryside from selected picnic and parking sites.

115. Coastal resorts south of the Haven Ports are already becoming congested, and the East Angles coastline will come under increasing pressure. We feel that lateral development along the coastline should be controlled wherever possible in favour of development inland from the coast. Meanwhile, there is a clear need for the maintenance of stringent policies for preserving the remaining un-

developed coastline and cliff-top paths between the Wash and the Haven Ports, to prevent all forms of development which would be detrimental to the visual and other amenities both seawards and landwards. The Council fully supports the provision of long-distance coastal paths. We would be very concerned if proposals for new landfill treatment plants for North Sea gas threatened the coastline still further.

116. East Angles already derives considerable income and employment from the holiday trade. In Part II we discuss some aspects of this sector. The future development of the holiday trade and tourism and their place within the economic structure of the region are matters to which we intend to give urgent attention. To this end we propose to consult the British Travel Association, the East Angles Consultative Committee and other interested organisations. If growth of the holiday trade is to be encouraged it is also worth considering whether, as suggested earlier by the British Travel Association, there should be a co-ordinating organisation at a regional level to assist in the development of tourism.

6 A City Region Strategy

117. We now turn to possible planning strategies for the region in the light of the existing settlement structure, social and industrial requirements, and movement patterns. These must be consistent with current official population projections, but sufficiently flexible to accommodate a substantially larger population after 1981 if necessary, or to be viable if the projections prove too high. Our aim must be to improve economic efficiency and social opportunity. We have concluded that the natural and most beneficial form of growth in East Anglia would be a development of the city region concept. Before elaborating this we set out briefly below some other possibilities in the form of radial growth, transverse growth and the new city concept.

Radial development from London

118. The South East Economic Planning Council in its report⁴ contemplated the possibility of housing all the South East population increases between now and the end of the century within or around the periphery of that region, mainly in corridors of development radiating from London along major lines of transportation to large cities acting as counter-magnets.

119. Two of the northward-reaching sectors would impinge on East Anglia. The first follows the A1 and the railway line towards Peterborough, and if extended would go through the western part of East Anglia and link the two expanding towns of St. Neots and Huntingdon and Godmanchester. These will form 'beads' of growth along this north-south axis of communications, and we believe that this development should be encouraged.

120. The other radial sector follows the A12 and terminates at Ipswich. Any further development along the A12 north of Ipswich would damage the largely unspoiled coastal strip. Theoretically this sector could be extended along the A140 and the adjacent railway line to a counter-magnet at Norwich, which could embrace the whole of the Norwich/Great Yarmouth/Lowestoft area. While agreeing with the South East Council's recognition of Ipswich and Peterborough as counter-magnets, the pattern of development within our

region should be determined by the structure and needs of East Anglia, and should not be entirely based on lines of development leading back to London.

121. It was announced in March 1968, in response to *A Strategy for the South East*, that a full-scale official planning study of South East England would be carried out. We wish to be fully associated with this planning study insofar as it affects East Anglia.

Transverse growth sectors

122. An alternative possibility is to apply the growth sector concept without aligning the sectors towards London. Development could be centred in one or more bands running roughly east to west across the region. There are already the beginnings of a broad southern band of growth extending from the Haven Ports and Ipswich through the expanding towns of Bury St. Edmunds, Newmarket, Sudbury and Haverhill, through Cambridge and on through St. Neots to Bedford, Milton Keynes and Northampton.

123. To concentrate more development along this band would further tilt the economic balance of the region towards the south and west and could threaten the amenity value of the whole area. An alternative would be the creation of a transverse sector across the northern part of the region, roughly along the line of the A47. To be strategically successful this would require growth on a very substantial scale and we do not think this feasible or desirable in that part of the region.

A Breckland city

124. It is sometimes proposed that all additional population in East Anglia should be concentrated in a large new city. The usual suggestion is that this city should be sited in a band of the relatively poor quality land of the Breckland area, separated from the expanding town of Thetford.

125. On general principles any new city is better located on poorer quality land if other factors are equal, but a new city in the Breckland area runs against most of the current thinking on suitable new town locations. The area is thinly populated, remarkably remote from large settlements, and

⁴A Strategy for the South East, HMSO 1967.

would need substantial expenditure on new communications. Because of such natural disadvantages development would be far more costly than at an existing centre. A new city would have to rely entirely on the introduction of new mobile industry to provide its employment structure. It seems unlikely that with the limited amount of such industry available it would be attracted to a site in this area. It would also destroy a large part of Thetford Forest and an area of unique natural interest, with serious consequences for timber supplies and for outdoor recreation amenities.

126. Our view is that such a new city could not be justified by the needs of the region. We doubt the wisdom of selecting a site for a new city anywhere in East Anglia. If there is to be moderate expansion in the Breckland area it should be at Thetford.

CITY REGIONS

127. The concept of city regions has been evolved in academic and planning circles in recent years out of the classical theories of the hierarchy of settlements, as an attempt to describe the rapidly changing role of urban centres and the growing strength and complexity of the linkages within urban regions for employment, shopping, education, entertainment and cultural facilities. A city region is a geographical and functional unit of economic and social activity: an area within which the population look to a common centre for some part of their employment and for certain services and facilities. Each city region has an individual structure and potential, increasing prosperity and improved mobility by means of the motor car are extending the possibilities for social and economic interaction between parts of a city region, particularly in making the city centre theoretically more accessible to the population of its hinterland, while at the same time creating problems of congestion. These trends are expected to continue and intensify. There is therefore a need consciously to organise the relationships between communities in a city region, and plan the distribution of population, employment and the use of land to minimise costs and improve accessibility while protecting the countryside and the historical heritage of the cities and towns of the region.

128. In East Anglia the concept of city regions is perhaps easier to recognise than in any of the other planning regions, because of the regular spacing of the four main cities which reduces the difficulties in defining spheres of influence. At the same time, the relatively small size of the main cities and the scattered population in the fairly widespread surrounding areas mean that, in comparison with some parts of Britain, the East Anglia city regions have developed a very dispersed structure.

129. East Anglia does not possess a single dominating regional centre or conurbation on the scale of, say, Newcastle, Manchester or Bristol. The four main cities are of comparable size at present, and are likely to remain so even after the overspill schemes at Peterborough and Ipswich (and possibly Norwich) are completed, when their size

will have grown to around the 200,000 mark in the early 1980s. None of the four cities occupies a conveniently central location in the region. For these reasons and because of the relative proximity of all four cities to London's metropolitan facilities and services, the Council recommends that there should be no conscious plan to elevate one of them to the status of a 'regional capital', although some specialisation of roles will no doubt continue to develop.

130. The influence and attraction of Norwich, Ipswich, Cambridge and Peterborough is exercised in terms of travel to work, shopping, commercial and professional services, entertainment and social services, and some of these influences extend throughout East Anglia and beyond. Each city dominates its particular quadrant, though the outer boundaries should not be thought of as lines on a map because the watersheds are blurred and vary according to function. More important, as we argue in Appendix 3, it is only within about 15 miles of the city centres that significantly operational city regions can be said to be developing. Beyond that distance the day-to-day (and even the week-to-week) contacts diminish substantially.

131. Beyond the immediate influence of the four main cities, there have developed three subsidiary 'town regions' of more than local significance, based on the towns of King's Lynn, Great Yarmouth/Lowestoft and Bury St. Edmunds. The labour catchment areas of these towns are well defined and do not overlap the hinterlands of the four main cities to any significant extent.

132. The Council has drawn certain initial conclusions:

- a that four city regions exist in East Anglia in meaningful physical and economic planning terms. They cover the whole region (and beyond) for certain specialist services and facilities, but in operational terms, particularly in terms of work and shopping, the area covered is much more restricted;
- b that the towns of Bury St. Edmunds, King's Lynn and Great Yarmouth/Lowestoft each have a fairly independent operational standing within a 'town region', and these towns should be encouraged to strengthen their role to help solve the problems of areas outside the direct influence of the cities;
- c that there are a few areas that lie outside even these 'town regions', and measures may have to be taken to build up a few additional minor growth points to revitalise these rural areas—keeping in mind the wider linkages with the towns and cities.

133. These propositions mean that all future economic and physical planning decisions should be considered within the framework of the individual city regions and their constituent town regions, while bearing in mind the intra- and inter-regional linkages. This must apply to the years up to 1991 as well as beyond, as in the earlier period major planning decisions will doubtless present

themselves.

134. We recommend that full city regional studies of present circumstances and future potential should be established in collaboration with all interested bodies to help evolve more detailed strategies. However, we are advised that resources for such studies are scarce and it would not be possible for all four city regions to be studied at once. We therefore propose that the Cambridge and Ipswich city regions should be tackled first, and that studies of the Norwich and Peterborough city regions should follow. Obviously the East Angles Consultative Committee and the local planning authorities will have views on priorities, and we will be consulting them and the Government so that further work is not delayed. Of the greatest importance will be the identification of those characteristics of each city region which are favourable or unfavourable to economic growth. Questions arising will include:

- a the degree of concentration or dispersal of settlements, industry, employment and services;
- b the functions of smaller towns;
- c the development of communications to allow efficiency of movement;
- d the links between the city regions and with other parts of the country, in particular the industrial and commercial linkages;
- e the development of agriculture and the provision of leisure facilities.

Local government re-organisation

135. In order to prevent any misunderstanding, it should be made clear that the city region studies which we have been discussing have been introduced purely for purposes of economic and social analysis and policy formulation. We do not wish to pre-judge the report of the Royal Commission on Local Government at present examining the whole structure and function of local administration in England outside the London area.

136. The approach to the economic and structural planning of our region which we have adopted would clearly be consistent with the establishment of administrative city regions based on Peterborough, Ipswich, Norwich and Cambridge, but in the meantime we hope that existing local authority boundaries will not inhibit co-operation in the synthesis of useful patterns of development.

137. The report of the Royal Commission is expected in the autumn of 1966, and any reforms stemming from it could not be proposed by the Government until there had been very full debate. Therefore it would be well into the '70s before actual reforms could be enacted and implemented, although collaboration between adjacent authorities would no doubt precede this.

THE FOUR CITY REGIONS

138. We now attempt some preliminary commentary on the four city regions, but we must stress that systematic application of the city region

concept will require a lot more work and analysis. In the following four sections we draw attention to some of the main issues which have so far emerged from our discussions. The four official statistical sub-divisions of East Angles, which are explained in Part II, Chapter 1, serve as a convenient first stage for the application of the city region concept to the region, and a great deal of statistical data are now becoming available for the sub-divisions. It is not suggested that their boundaries are appropriate for all purposes, and we recognise that more localised analysis will be required for many issues and as part of the city region studies.

The Norwich sub-division

139. The Norwich sub-division is the largest in land area and has a population of over half a million, over one-third of the population of the region. Nearly half the population lives in the main urban areas of Norwich, Great Yarmouth and Lowestoft; this triangle provides the industrial centre of gravity. The remaining population is widely dispersed throughout the sub-division, and some of these sparsely populated areas have the highest unemployment levels in the region and the lowest income levels in the country.

140. The built-up area of Norwich has a population of about 160,000 people, and is centrally located in the sub-division, with a web of roads leading to all the smaller settlements. However, the preservation of the medieval structure and the historic core of the city is a constraint on further concentric growth. It has been proposed that an overspill project for 30,000 Londoners should be established in the Norwich area, but this would depend among other things on local agreement about a pattern for growth. At the time of preparing this Study the Council understood that the County Borough was willing to undertake the scheme but that no appropriate area of residentially-zoned land existed within its boundary. A large centre with the many economic and social advantages of Norwich will clearly be attractive to industry and population, and we think that every encouragement should be given to Norwich to accommodate the overspill and thereby to supplement its industrial structure. We have instituted a cost/benefit research project of alternative settlement locations around Norwich in collaboration with the local planning authorities, which we hope will establish the most beneficial pattern for population growth. The research will utilise the results of the land-use and transportation study which the planning authorities are conducting.

141. One strategy problem which Norwich, Great Yarmouth, Lowestoft and indeed the whole sub-division faces is the difficulty of road communications with London and with the Midlands. The distances involved are exaggerated by the poor quality of the road links, which greatly extends journey times.

142. Norwich is based on engineering, food processing and the shoe industry. The Great Yarmouth /Lowestoft area with a population of over 100,000

provide employment in manufacturing industries, food processing, the holiday industry, fishing and boat-building. The future of the towns must be determined in an area wider than the existing local authority boundaries—it must be assessed in relation to the Norwich city region as a whole. We are glad to know that the Ministry of Housing and Local Government has invited the three local planning authorities of Great Yarmouth, East Suffolk and Norfolk to examine jointly the Great Yarmouth/Lowestoft area, as we believe that such a study, if undertaken, would be a useful step in the consideration of these wider questions.

143. Another focus of development has been at Thetford, where the overspill scheme has been soundly based. The population of the town itself has been growing steadily from 8,000 towards the target of 18,500 by 1971, and the town serves a large rural hinterland which extends into the other sub-divisions. As we have already stated, we support the proposal for further expansion of the town.

144. Elsewhere in the sub-division there are the economic and social problems associated with the large number of smaller market towns in those rural areas which are outside the operational influence of the main urban centres. Over the long term the economics of town scale will lead to concentration of population and social capital in a smaller number of settlements having sufficient population and offering a wide enough range of services to enable them to provide the kind of living and working conditions necessary for the future. We do not believe that industry can be attracted to a large selection of market towns, or that it would be practical to expect any government assistance for spreading development thinly throughout the wide interstices between major urban areas in all the sub-divisions. We have already said that we do not foresee induced population expansion at further market towns by means of overspill. We recommend that one or two employment sub-centres should be selected for concentration of future indigenous growth; these would need government support.

The Peterborough sub-division

145. The north-west sub-division largely comprises the Fenland peat basin. The city of Peterborough and the smaller centre of King's Lynn provide the main services and industrial employment opportunities. Their combined population represents about one-third of the 300,000 people in the sub-division.

146. Peterborough, envisaged as a counter-magnet to London, is designated a New Town for a planned intake of 70,000 people and will grow to about 170,000 by 1981. It has good north-south road and rail communications, but the links with the Midlands and also eastward, particularly the A47, require urgent improvement. Peterborough is already a fairly well-developed industrial area with a concentration of mechanical and electrical engi-

neering industries, including vehicle diesel engines, machine tools and consumer durables. To the west lies an important area of brick production. On the other hand, employment opportunities in the service industries are not as diverse and numerous as in other cities of East Anglia, and other manufacturing industries with complementary labour demands will be needed.

147. In economic terms, the city region hinterland extends into the East Midlands Planning Region. We already have an appreciation of the Peterborough sphere of influence in the Consultant's Report on the expansion of Peterborough*, and we understand that a special study group has been set up by the six county councils concerned. We would welcome the opportunity of learning more from them of their initial appraisal of this city region. We expect that the Master Plan for Peterborough will also define the character of the city centre; the extent of its hinterland will depend very much on the quality and scope of its services and transport links. Certain functions, particularly in the service sector, will be concentrated in the urban core of Peterborough, but will need to serve a wide catchment area. This will imply an effective road system within the city and considerable improvement to the major routes radiating from it.

148. The towns of March, Wisbech and Chatteris are in the sphere of influence of Peterborough but on its operational perimeter. Plans for Peterborough and the city region should examine the possibility of relating these towns with the main expansion, as this would appear to be the best way of making use of their resources and potential. In the meantime, although overspill development would not be practicable in these towns, their existing industries should be given every chance to grow to offset the decline in employment in traditional industries.

149. The expanding town of King's Lynn provides most of the employment and services for its own residents and for its extensive hinterland, but it looks to Peterborough, Norwich and Cambridge for certain specialised facilities. In regional planning terms King's Lynn is well situated for planned expansion and we hope that every encouragement will continue to be given to enable it to reach its population target of 55,000 by 1981. We expect the town to provide increasing employment opportunities for a hinterland extending to Hunstanton in the north and to Downham Market in the south. One planning problem of King's Lynn—and elsewhere—concerns the preservation of the historic buildings in the town centre consistent with their adaptation to current use to help maintain and improve the life of the town.

150. Outside the urban areas, agriculture and horticulture are very intensive and provide the basic employment; the sub-division as a whole has the highest proportion of agricultural workers. Associated with this is a developing food-processing industry, with canning, freezing and sugar beet factories in several market towns.

**Expansion of Peterborough* HMSO 1968.

The Cambridge sub-division

151. The south-west sub-division lies between the Fenland in the north and undulating chalk uplands in the south. Cambridge is the main urban centre and occupies a fairly central position. Overspill schemes have been agreed for Huntingdon and Godmanchester, St. Neots, Haverhill, Mildenhall and Brandon around the edges of the sub-division, and at Newmarket which lies closer to Cambridge. Other local centres include Ely and St. Ives.

152. About one-fifth of the population of the region lives in this sub-division; population has increased faster than in any other sub-division, particularly in the last five years with the development of the town expansions added to the inward voluntary migration. In our view the problems of the towns in the northern part of the new administrative county of Cambridgeshire and the Isle of Ely must be dealt with in the context of the Peterborough city region.

153. The population in the Cambridge Employment Exchange Area—which extends from seven to ten miles around the centre of the city and includes the immediate necks of villages—contains nearly half the sub-division's present population of 343,000, and there has been consistent growth of population and employment in this area. Three facts of considerable significance for future planning stand out: first, the consistently high level of employment; secondly, the marked predominance of a few major industries in the manufacturing sector and the large numbers employed in professional and personal services especially in the University, colleges and hospitals; and thirdly, the overall concentration of employment at the city of Cambridge with some induced growth recently at the edges of the sub-division. The construction of M11 from London will add to the pressures for growth, which would be increased if ultimately Stansted were chosen as the third London airport.

154. Future planning in this sub-division should take advantage of the important contribution that the numerous research and development activities in Cambridge can make to the national economy, and of Cambridge's further potential as a regional centre for offices and professional services, shops, entertainment and cultural activities, and as an international centre for tourism and specialist conferences. The major obstacles to this approach appear to us to be the immediate problems of labour shortage, because population and housing growth have not kept pace with growth in demand for labour; and the physical planning difficulties of preserving the architectural and historic environment.

155. The problems of labour shortage may stem from the development plan* which was prepared when national population forecasts were substantially below those currently accepted. The plan rightly aimed to preserve Cambridge as an historic university city and market town as well as

a regional centre. It took the view at that time that in order to do this it was necessary to stabilise the population of Cambridge City at about 100,000 and to provide for growth in the immediate hinterland by another 25,000 by 1974. Severe restrictions were applied on industrial growth and on the establishment of new shops and offices, and latterly a physical restriction in the form of a green belt has been tightly drawn around the city. Notwithstanding these policies, employment opportunities have grown substantially in comparison with other parts of the region, and these pressures for growth are a clear sign of the attractiveness and economic advantages of the city to industry and commerce.

156. If the present restrictions on development in and around Cambridge were continued, then (according to the results of a local study) even on past natural increase and migration trends the population in the Cambridge Employment Exchange Area would be likely to grow to about 200,000 in 1981, compared with the estimated 1964 population of 158,000. Indeed, the development plans show a capacity within the Exchange Area for about 200,000 people by 1981. There is, however, very little land available to the city authority for municipal housing.

157. Employment has been and will continue to be generated in and around the city rather than in the outer countryside, and development of distant villages and small towns seems to us to be impracticable. It is not really feasible to take industry and commercial activity to distant villages, because they cannot on their own support the type of advanced industry strongly attracted by Cambridge, nor are they within easy reach of the range of community services including education and hospital facilities. Future population would be better distributed in closer proximity to the city.

158. Employers might be able to recruit workers far more easily if there were more houses for sale at lower prices and for letting: we believe the labour difficulties could be lessened by the adoption of appropriate housing policies both by the city and the rural district councils. This would ease the movement of workers into the city and its vicinity from other parts of the region where work is less readily available. We realise that this would call for the adoption of pre-emptive land use policies by the local planning authority, and we trust that the working group comprising the city and county authorities, the University and the Ministry of Housing and Local Government, who have been examining the problem of the future size of Cambridge, will take up these points and bring forward in the very near future some recommendations which will be available for the city region study. We understand also that a land use and transportation study is in progress, and we hope the results will also be available for the wider study.

159. As to the nature of future employment expansion, we find that there is a demand from Cambridge University for a policy which would

*Cambridgeshire County Development Plan (Approved by the Minister of Housing and Local Government, 1964).

permit the continued growth of industrial research and development activities connected with its scientific and technological work. More diversity of activity could help to sustain and stabilise the industrial structure of the city. Other regional activities and services should also be allowed to develop. It is essential first, however, to ensure that there is sufficient housing to meet these needs.

160. Looked at in the regional context, the Council considers that East Angles cannot afford to disregard natural growth points and that in each city region the city should be strengthened; in the case of Cambridge the Council thinks this appears practicable without damaging the esthetic importance of the University and other historic areas of the city, given sensitive structural planning and environmental control.

The Ipswich sub-division

161. The population of the south-east sub-division is 371,000, of whom about two-fifths live in the urban area of the main city of Ipswich and in Bury St. Edmunds. There are town expansion schemes at Bury St. Edmunds and at Sudbury.

162. Ipswich lies on the southern periphery of the sub-division and its influence already extends into north Essex. Like Peterborough, the town will be massively increased in size by new town development; the population is expected to grow from 130,000 to 220,000 by 1981, and the draft Designation Order has already been laid. The Council accepted the main recommendations of the two reports by Shankland, Cox and Associates on the expansion of Ipswich* and hopes that the difficulties over the area for designation will soon be resolved so that planning for the expansion can begin. With increasing growth Ipswich can be expected to attract a large number of voluntary immigrants, and we may need later to formulate a view of its ultimate desirable size; but even at this stage it is clear that Ipswich will dominate a wide area and exercise a strong enough influence over the south-eastern part of the region to bring an

effective city region into being without difficulty.

163. We have already accepted the proposition of the South East Economic Planning Council for a sector of growth leading to Ipswich, and we agree with the Council that Ipswich will be a counter-magnet to London. It seems likely that an increasing functional inter-action will develop between south-east Suffolk and north-east Essex, and we think that there might be a natural case for growth after 1981 in the wider Haven Ports/Colchester complex. We fully support the proposal that a study of the whole Haven Ports/Colchester area should be carried out, and we urge that this study should be set up as soon as practicable. In order to take fully into account the amenity value of the surrounding countryside, the Stour Valley and the estuaries, it would be advisable to extend the boundaries of the study area as much as possible.

164. The West Suffolk part of the sub-division focuses upon Bury St. Edmunds, which apart from its county administrative function has attracted a number of food-processing firms and is building up a complex of engineering firms, varying from agricultural engineering to precision camera work. Bury St. Edmunds is largely self-contained in employment and shopping terms and acts as a service centre for a large number of smaller settlements and some of the surrounding town expansions. The town is planned to grow to 40,000 by 1981. Although it has been a successful overspill town we think that the present targets are probably the limits of planned expansion compatible with the character of this part of the region and bearing in mind the proximity of the competing expansion at Ipswich.

165. The sub-division also includes the fast growing part of Felixstowe; Stowmarket which is engaged principally in paint manufacture and general light engineering; and the Sudbury area where the old foundation of silk weaving and knitted fabrics is supplemented by precision engineering, plastics and chemicals. There is some evidence of economic difficulty in parts of the north-east of this sub-division, and this area should be included in any review of the problems of areas of below-average growth in economic activity.

*Expansion of Ipswich, HMSO 1966, and Supplementary Report, HMSO 1968.

7 Programme for Future Work

166. The previous sections of Part I set out the main conclusions which we have so far reached on population growth, employment prospects, location of industry policy, transport and communications, social services, leisure and amenities, and policy for population distribution. These conclusions and recommendations constitute a preliminary report on the first stage of our work. The next stage of the Council's work will be to follow up the recommendations and analysis in this Study on the following lines.

Consultation

167. The Council will consult local government and other organisations in the region on the conclusions and recommendations contained in the Study. Some of the views expressed will also be of concern to local authorities in adjacent regions and to the other economic planning councils, and we hope to have discussions with them too. These talks will help us to develop further our ideas on strategy.

168. Many of the recommendations for immediate action in Part I, Chapter 8, are addressed to the Government. The Study as a whole will be considered by Ministers, and we expect to be consulted on certain issues before a formal comprehensive reply is given by the Secretary of State for Economic Affairs.

City region studies

169. Full studies should be undertaken for each of the four city regions. These must be interconnected and should be consistent with each other. They should deal not only with physical planning issues, but also with economic and social considerations, such as the growth and distribution of people and jobs, the growth and location of industry and the level and composition of investment, particularly in houses, roads and other forms of social capital.

170. The main burden of these exercises will fall on local authorities and the Planning Board, but we expect to participate ourselves and there are other interested organisations who should be invited to take part. The data and findings of sub-regional studies already in hand should be made

available. We have recommended earlier that the studies for Cambridge and Ipswich need to be started without delay.

Market towns

171. In a number of places in this Study we have drawn attention to the problems confronting many of the market towns in the region. We are clear that these will not be solved by any general policy of expansion, or in the context of new overspill schemes. New solutions will have to be found. These would need to be examined in the context of city region studies, but we propose to pay special attention to the economic and social prospects of market towns in consultation with local authorities and other bodies.

Industrial structure

172. An urgent task is to improve the range and reliability of our knowledge of the industrial structure and economic functioning of the region. Although the statistical data available are improving at present, we, like all planning councils, lack up-to-date information on many important economic and industrial indicators for the region; at present much of our information is subjective or incomplete. We shall continue to press for further improvements and, where serious gaps remain, try to cover the more important of them by instituting research projects ourselves.

The overspill programme

173. There is a serious lack of published research on the operation of planned migration schemes. We intend to encourage work in this field in collaboration with local authorities, New Town corporations and government departments.

Social services

174. We have drawn attention to certain problems in the provision of social services in a region with such a widely scattered population. For example, provision on a *per capita* basis is, in real terms, far less generous in our region than in, say, a single conurbation of a similar size. Also, economic provision of many services is becoming increasingly difficult in the small market towns and surrounding

villages. We propose to institute a much closer examination of these problems.

Tourism

175. We intend to investigate the role which the tourist industry should play in the economic development of the region.

University links with industry

176. The Universities of Cambridge and East Anglia are important for developments within the

region in two ways. First, they can provide centres for the growth of research-based industry, which is one of the kinds of industrial development we believe the region should encourage. Secondly, they may be able to meet the special needs of industry and commerce in the region for management training, refresher courses and training in up-to-date research techniques.

177. We propose to discuss with these Universities the ways in which such developments might best be encouraged.

8 Summary of Recommendations

178. We set out briefly below the main recommendations which are made in Part I.

179. We calculate that between 10,000 and 13,000 new manufacturing jobs for men will have to be brought into the expanding towns between 1966 and 1971 to supplement labour demand from local industry; a further number of jobs will be needed in areas showing unemployment and under-employment. *Para. 21.*

180. For the period 1971 to 1981, close attention will have to be paid to the problems involved in finding jobs for very large increases in labour supply; approximately three-quarters of the increase in men will be in the New and expanding towns. *Para. 22.*

181. Present disparities in income and standard of living can only be eliminated by further increases in output per worker through higher investment over and above that required to create new jobs. *Para. 23.*

182. Distribution of industry policy must be flexible and realistic enough to permit these aims. After the Hunt Committee has reported, the Government should review its policy generally, and we think East Anglia as a whole should be included in this review. We would expect the Government to make quite plain the distinction between East Anglia and regions showing congestion and severe labour shortage, and freely to allow the growth of indigenous industry—especially in New and expanding towns—to provide a stronger structure and to reduce the need for mobile industry from London. *Paras. 31–35.*

183. At Peterborough and Ipswich New Towns the Development Corporations should be effectively staffed to deal with questions of orderly industrial expansion and balance, and manpower matters. *Para. 36.*

184. We are discussing with the South East Economic Planning Council its proposal that for each major overspill scheme there should be an interdepartmental team responsible with the development corporations and local authorities for regular progress reviews. *Para. 37.*

185. Overspill towns receive second priority after Development Areas for firms moving out of the GLC area; this second priority for overspill towns should be extended to firms in the Outer

Metropolitan Area. *Para. 38.*

186. The progress of smaller expansion schemes should be related more closely to the rate of actual job growth, which may well be slower than the potential rate of housebuilding. Certain existing town expansion schemes may well need to be able to offer some extra positive inducements. *Para. 39.*

187. We wish to be assured that all these points will be examined in detail in a general review of distribution of industry policy; we hope this will be done quickly so as not to hold back development in the region. *Para. 40.*

188. The Council recommends that the present control on office development should be lifted immediately. We also recommend that dispersal of government offices to the region should continue and increase. *Paras. 41–45.*

189. We recommend industrial training boards to take special measures to increase training and re-training in line with regional forecasts of demand for skills. Apprenticeship training should be re-examined with the particular problems of the region in mind. *Paras. 47–50.*

190. Employers' associations should give further encouragement to group training schemes. *Para. 52.*

191. The considerable assistance given by the Department of Employment and Productivity for training for additional jobs in Development Areas should be extended to East Anglia, in particular the weekly grants and capital grants. *Paras. 53 and 54.*

192. We have already recommended to the Hunt Committee the development of a few selected employment sub-centres to provide employment in rural areas with economic and social problems. The scale of the problem is small, but there should be certain positive incentives to new industry. *Paras. 58–61.*

193. Even if our recommendations on industrial policy and improvements in communications and other infrastructure are broadly accepted and implemented, they will only cope with the population increase at present in prospect for the region. Therefore we must conclude that efforts should be concentrated on ensuring the success of the two major expansion schemes and of the smaller town development schemes now in operation and on adapting the settlement pattern to modern needs. We recommend that no further proposals for

increasing the overspill programme should be approved, with the two exceptions of Norwich and Thetford. *Para. 62-64.*

194. We have broadly accepted an appraisal of the road requirements by 1981, which was prepared by the East Anglia Consultative Committee. Neither an east-west nor a north-south motorway is required before 1981, provided alternative improvements are implemented. The total expenditure for improvements to rural trunk roads and other main urban roads and rural traffic routes, excluding the special provision for the New Towns at Ipswich and Peterborough, ought to be some two and a half to three times more than what seems likely according to present trends and policies. Given the probable limits on the overall growth of public expenditure in the next decade, it is clear that even if East Anglia's share in the national road programme is substantially increased, as we have recommended, it would be unrealistic to suppose that it will be possible to finance the whole of this programme. The region will have to face growing congestion both in urban centres and on major routes, and this will be a severe obstacle to successful economic expansion. We propose:

- a) substantial increases in the finance available from central and local government;
 - b) that the Ministry of Transport and the local authorities concerned should examine the scope for adjusting the balance of total roads expenditure so as to secure the maximum for the more urgently needed major improvements by allocating proportionately less for other work;
 - c) that when we have some clear indication of the probable finance available, the Council should examine the priorities to be attached to different projects.
- Paras. 66-68.*

195. We would wish to be assured that the restriction imposed by the new Transport Bill upon the use of large goods vehicles for journeys of over one hundred miles will not hamper East Anglian industry or farmers, or discourage firms from coming into the region. *Para. 66.*

196. As we have become increasingly concerned about the cumulative effect of British Railways' proposals for the withdrawal of individual passenger services, we recommend that all lines already proposed for closure should be reconsidered by the Minister of Transport when examining the social and economic benefits of grant-aiding unremunerative rail passenger services. *Paras. 66 and 67.*

197. Decisions concerning port development in East Anglia, whether by individual port authorities or a controlling body, should be guided in each instance by a realistic assessment of prospective traffic, arrived at in consultation with all the commercial interests concerned; such decisions should take into account the overall economy obtainable from a degree of specialisation among small ports, as against the provision of a wide range of facilities at each. *Paras. 69 and 70.*

198. Since the apparent lack of public interest in higher education may have its roots in the limited educational opportunities available in some rural primary schools, further special measures may have to be taken to ensure that children attending these schools are not at an educational disadvantage. Young people in the region need a great deal more encouragement to take full-time and part-time further education courses from their local education authorities, teachers, employers and parents. *Para. 70d.*

199. We have been disturbed by the Government's intention that the present list of polytechnics should remain unchanged for ten years. Within a much shorter period of time the growing needs of industry and commerce may well justify the designation of a major establishment in the region as a polytechnic, and we would like to receive an assurance that there will be an opportunity to review the position in not more than five years' time. *Para. 70e.*

200. We think it would be useful for the local planning authorities in the region to discuss common criteria by which areas may be designated as of 'Outstanding Landscape Value', as this would help in safeguarding visual amenity when future patterns of development and growth are being considered. *Para. 71d.*

201. Lateral development along the coastline should be controlled wherever possible in favour of development inland from the coast. Meanwhile there is a clear need for the maintenance of stringent policies for preserving the remaining undeveloped coastline and cliff-top paths between the Wash and the Haven Ports, to prevent all forms of development which would be detrimental to the visual and other amenities both seawards and landwards. *Para. 71e.*

202. We have concluded that the natural and most beneficial form of growth in East Anglia would be a development of the city region concept. Our initial conclusions are:

- a) That four city regions exist in East Anglia in meaningful physical and economic planning terms, around Norwich, Ipswich, Cambridge and Peterborough. They cover the whole region (and beyond) for certain specialist services and facilities, but in operational terms, particularly in terms of work and shopping, the area covered is much more restricted.
- b) That the towns of Bury St. Edmunds, King's Lynn and Great Yarmouth/Lowestoft each have a fairly independent operational standing within a 'town region', and these towns should be encouraged to strengthen their role to help solve the problems of areas outside the direct influence of the cities.
- c) That there are a few areas that lie outside even these 'town regions', and measures may have to be taken to build up a few additional minor growth points to revitalise these rural areas—keeping in mind the wider linkages with the towns and cities.

These propositions mean that all future economic and physical planning decisions should be considered within the framework of the individual city regions and their constituent town regions, while bearing in mind the inter- and inter-regional linkages. We recommend that full city regional studies of present circumstances and future potential should be established, starting with Cambridge and

Ipswich. These studies must be interconnected and should be made consistent with each other. The data and findings of sub-regional studies already in hand should be made available. *Para.s. 118-134, 203.* We wish to be fully associated with the full-scale official planning study of South East England announced in March 1968, insofar as the planning study affects East Anglia. *Para. 121.*

1 Some Characteristics of the Region

204. The East Anglia Economic Planning Region comprises the five counties of Cambridgeshire and the Isle of Ely, Huntingdon and Peterborough, Norfolk, East Suffolk and West Suffolk and covers 4,900 square miles, with compact dimensions not exceeding 80 miles from east to west and 70 miles from north to south. It is bounded on the north and east by the sea, with 150 miles of coast and estuary. East Anglia has for long been recognised as a fairly distinct geographic region, though its suggested boundaries have varied somewhat according to the criteria adopted, and particularly to whether to include all the Fenland*. Although north Essex has much in common with the Suffolk, it was not thought appropriate to make it part of the East Anglia Planning Region because the more densely populated and fast-growing southern part of Essex lies within London's orbit, and in all but one case the economic planning regions followed administrative county boundaries. The adjoining East Midlands Planning Region shares with East Anglia, *inter alia*, the Fenland, the brick-clay belt and the hinterland of Peterborough.

Physical structure

205. The surface relief of the region reflects the nature of its rocks and their disposition. The solid strata dip gently to the east and are partly overlain by more recent glacial, fluvial and estuarine deposits and peat. The softer rocks, such as clays, have produced low, flat ground; those more resistant to erosion, like the chalk, stand up as ridges and escarpments. The physical divisions of the area are shown in Figure 4.

206. The flat area of the Fens is formed by geologically recent silts and peats resting on Jurassic clays. The alluvials border the Wash, and the peat fens, now largely drained, form the surface further inland.

207. The Huntingdon Plain area is likewise mainly underlain by Jurassic clays, often capped by glacial boulder clay. The boundary between

this area and the Fens is not sharp; 'islands' of higher ground standing above the peat fens are formed of these clays.

208. The East Anglian and West Norfolk Heights form the 'backbone' of the region and rise to over 250 feet in places. They mainly represent the exposed area of the chalk, but north of Downham Market include a narrow tract of Lower Greensand. The rocks produce west and north-west facing escarpments. Over the lower area of Breckland the chalk is largely covered by glacial sands and gravels. These produce a light, dry soil easily eroded by the wind. The glacially formed Cromer Ridge of north Norfolk consists of gravely deposits rising to over 300 feet.

209. The East Anglian Plateau is underlain everywhere by the chalk, which is covered in the east by the shelly gravels called the 'Craggs'. The whole is masked extensively by glacial deposits of boulder clay, sand and gravel, which give the area its variety of surface form. The Broads area is the distinctive flat area of road-lined creeks and meres around the lower Bure and Yare rivers.

Climates

210. The annual rainfall averages between 21 and 28 inches and is one of the lowest in the country. Compared with the national average, the region also experiences significantly more sunshine hours, warmer summers and colder winters.

East Anglia's strategic situation

211. Since the time of the Industrial Revolution, in which it took little direct part as a consequence of its lack of coal and iron, East Anglia has been generally regarded as oblique to and away from the main axes of manufacturing development and communication in the country, though in the forefront of agricultural progress. The situation began to change before the second world war and industrialisation has quickened in recent years. In the coming decade everything points to a reorientation which will result in an unprecedented growth of population and industry.

212. The strategic situation is illustrated in Maps A and B of Figure 5. The following factors are important:

a Proximity to London, which is only 40-120

*The divisions suggested by G. B. Rowell in *The Province of England* (Penguin, new edition 1965) include an East Anglia very similar in size to the current Economic Planning Region. See also G. B. Rowell, *The Future of Local Government* (Cassell, 1921) and G. B. Rowell and E. H. Dillist, for two further schemes in *Geographical Journal*, Vol. XXIX, 1924, pp. 62 and 79.

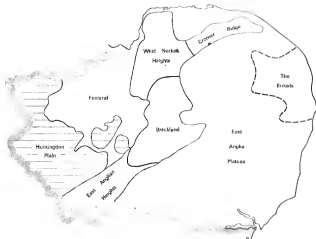


Fig. 4 Physical structure

miles from any point in the region; the Outer Metropolitan Area touches part of the southern boundary

- b Sea trade with Europe is one of the 'growth sectors' of Britain's foreign trade. East Anglia's ports, though small, are well placed to serve this trade, and in the past five years their growth has been very swift. The newest techniques of containers and roll-on/roll-off are already being employed.
- c The container ports of *Tilbury and Harwich* and the proposed *Channel Tunnel* will not be in the region, but they will be close enough to be of use to East Anglia's industry and commerce.
- d Major North Sea gas fields lie off the region's coast and their development has brought new industrial activity to the region in the servicing of the drilling platforms and the laying of pipelines inland from the coastal terminals.
- e A third international airport to the north or north-east of London would provide freight and passenger services and improve East Anglia's growth prospects.

Statistical sub-divisions of the region

213. Statistical information about the region as a whole, which is gradually becoming more plentiful*, is facilitating comparisons with other regions and with the country in general. But much of our

future work will involve analysis of the economic characteristics of small areas, for which ready-made data are often lacking. In answer to a central government request for advice on an area breakdown of the planning regions for statistical purposes, we recommended that our region should be divided into four statistical sub-divisions based on the main centres. The sub-divisional boundaries shown in Figure 6 are, inevitably, a compromise between economic realities, statistical convenience and local authority boundaries, but they do take into account distance and travel time to the centres and the balance of population distribution. The sub-divisional boundaries cross county boundaries but follow (for statistical convenience) county district boundaries. The constituent parts of the sub-divisions are detailed in Appendices 1 and 2.

Areas of influence of urban centres

214. In terms of areas of influence, the hierarchy of settlements in East Anglia is headed by the four major urban centres of Norwich, Ipswich, Cambridge and Peterborough, and the three minor urban centres of Bury St. Edmunds, King's Lynn and Great Yarmouth/Lowestoft†. Each of these centres exerts a separate economic and social attraction over the population of surrounding areas in respect of travel-to-work, shopping, social services and entertainment. Much remains to be

*Great Yarmouth is a minority borough administratively separate from the Municipal Borough of Lowestoft, but for the purpose of this analysis they have been considered as a single urban centre.

*See *Abstract of Regional Statistics*, Nos. 1-3 HMSO.

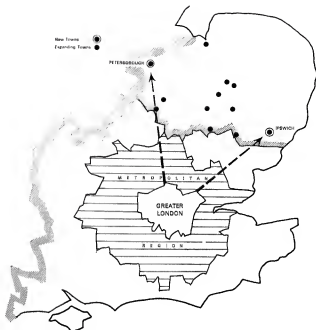


Fig. 8 Strategic situation A. Population

done to measure the extent and strength of these inter-relationships, but on the basis of our preliminary studies we believe that travel-to-work patterns provide one of the best guides to a centre's relationship with its hinterland, and it would seem that other indicators tend to confirm the findings obtained from travel-to-work analysis*. Travel-to-work data are particularly

useful as they are available from the population censuses over a long period of years and cover all local authorities.

216. The travel-to-work maps¹ in the pocket (Map 3) and the commentary and table at Appendix 3 are based mainly on preliminary results from the 10 per cent sample 1986 population census and the 1951 population census.

*See Royal Commission on Local Government Finance Studies I, 1966, p. 18, paragraph 72, HMSO 1966.

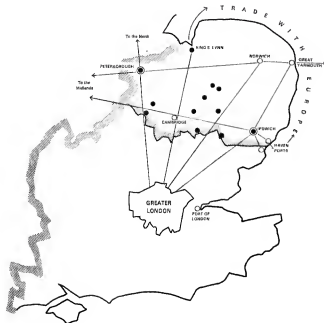
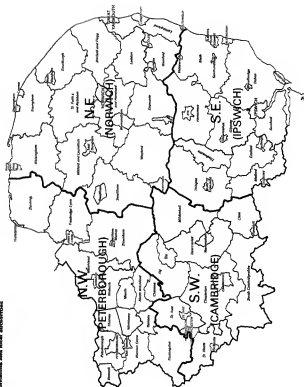


Fig. 8 Strategic situation 8. Communications

Fig. 5 Statistical sub-divisions and local authorities



2 Population and the Overspill Programme

216. The home population of East Anglia at mid-1966* was estimated to be 1,582,000, or 3.3 per cent of the population of England and Wales. This is the smallest population of any region (see Figure 7).

Population structure

217. There are two special elements in the regional population structure (see Table 1). One is the 27,000 members of the United Kingdom and USA armed forces, representing 1.7 per cent of the population, a higher proportion than in any other

region. The other is the 11,000 students of the two universities. The disproportionately large number of men in the 15-44 age-group in these categories reduces the percentages attributed to the other groups. Otherwise the structure of the regional population is not significantly different from that of England and Wales, except that the region has a somewhat higher than average proportion of old people, particularly in the eastern half. The north-east sub-division has the most elderly structure (see Appendix 6). East Anglia's population in relation to England and Wales is shown at Figure 11.

218. The regional birth rate of 16.6 per thousand shown in Table 2 was nearly 6 per cent below the national rate. This was partly attributable to the

*This chapter is written in terms of 'home population' (the population, including armed forces, resident in an area) except where otherwise stated. The year 1966 is used in the Study as the base year; as the official population projections run from 1966 to 1981. Population figures for 1963 are given in Appendices 2 and 6.

TABLE 1

Population structure by age and sex mid-1966*

	East Anglia '000	% total population	
		East Anglia	England and Wales
<i>Persons</i>			
0-4	120	8.1	8.7
5-14	222	14.0	14.3
<i>Males</i>			
15-19	67	4.2	3.9
20-44	278	17.4	18.3
45-64	184	11.6	12.0
65+	88	5.4	4.7
<i>Females</i>			
15-19	61	3.8	3.8
20-44	241	16.2	16.9
45-64	148	9.2	9.8
65+	174	11.0	10.7
<i>All ages</i>	1,582	100	100

*Figures are rounded and may not add to totals.
Source: General Register Office.

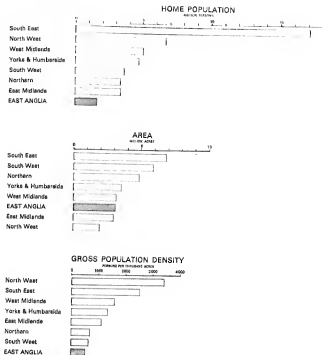
TABLE 2

Live births occurring in 1966

	East Anglia	England and Wales
<i>Births</i>	26,338	845,823
Home population, all ages	1,582,000	48,578,000
Births per thousand	18.8	17.7
Home population, females 15-44	303,000	8,423,000
Births per thousand	87.3	90.2

Source: General Register Office.

A. Population, area, density 1968



B. Percentage population increases
1951-66 and 1966-81

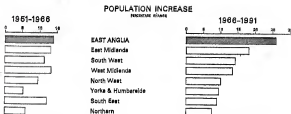


Fig. 7 English Planning Regions

peculiar population structure. If births are related to the number of females between the ages of 15 and 44, then the regional birth rate was only 3 per cent below the national rate.

Population distribution and settlement pattern

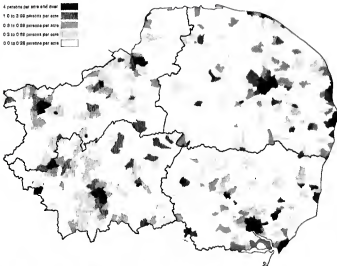
219. The distribution of population densities according to the 1966 population census is shown at Figure 8. The overall population density of East Anglia—only 0.5 persons per acre—is the lowest of any region in the country. The range of densities runs from nil in five parishes to 15 persons per acre in Norwich. There is no very marked pattern to the distribution of densities. Each sub-division has some examples of true urban density (over 4 persons per acre) and many parishes have less than 0.2 persons per acre.

220. The distribution of settlements by size* in each sub-division is shown at Figure 9, and the geographical distribution of the larger settlements

is shown at Figure 10. There is no large urban mass in the region. The largest settlement† is Norwich with a population of 160,000, followed by Ipswich (129,000) Yarmouth/Lowestoft (113,000) Cambridge (106,000) and Peterborough (81,000); these settlements together contain 38 per cent of the region's population. Thereafter there is a very marked drop to the settlements in the 20,000–30,000 group, i.e. King's Lynn (30,000) Wisbech (29,000) Bury St. Edmunds (23,000) and Felixstowe (21,000). In the 10,000–20,000 group there are Huntingdon (17,000) Merch (13,000) Sherlingam-Cromer (12,000) Newmarket (12,000) St. Neots (11,000) and Sudbury (11,000). These places (including the main settlements) comprise 50 per cent of the population. A further 25 per cent of the population lives in the small market towns and larger villages, and the remaining 25 per cent in the more than one thousand villages with a population of less than one thousand persons.

*The population attributed to the larger settlements is that of the more or less continuously built-up area, whilst smaller settlements are assessed with parishes; the analysis is in terms of private household population for 1966 and thus excludes the armed forces and institutions.

Fig. 8 Population density



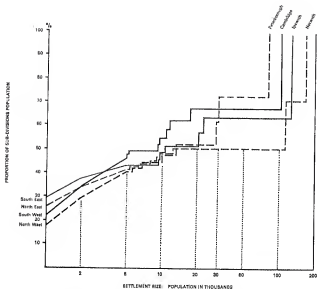


Fig. 9 Cumulative distribution of sub-divisional population 1966

221. As can be seen from Figure 9 the regional pattern is broadly maintained in the sub-divisions. Each is dominated by a large settlement, has few settlements with over 10,000 population, and 42-46 per cent of the population live in settlements of less than 5,000 persons.

Recent population trends*

222. It is convenient to regard the recent past as

*Mid-year estimates of the home population.

covering the fifteen years 1951-66, thus facilitating comparison with the following fifteen years 1966-81. Since 1951 East Anglia has had the fastest regional growth of population (see Figure 7). In the first quinquennium, 1951-56, the population was growing at a slightly faster rate than the population of England and Wales. By the third quinquennium, 1961-66, the national rate of growth had doubled but East Anglia's rate of growth had nearly tripled, as shown in Table 3.

223. Of the total growth of 192,000 recorded over

TABLE 3
Estimated changes in home population

	1951-56	1956-61	1961-66
East Anglia increase in number of people	31,200	65,100	92,700
East Anglia increase as percentage	2.2	4.0	6.2
England and Wales increase as percentage	1.9	3.4	4.0
East Anglia growth rate in relation to England and Wales growth rate	116	141	155

Source: General Register Office.

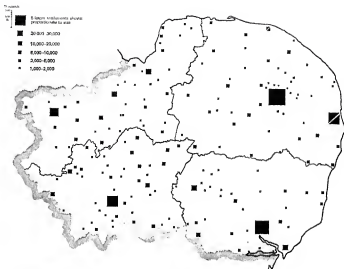


Fig. 10 Settlement distribution 1986

the fifteen years, nearly half occurred in the last five-year period in spite of a reduction of 12,000 in the armed forces (see Appendix 6 for details).

224. An important element in the growth of population has been natural increase. It has risen from 28,000 in 1961–66 to 41,000 in 1961–66. Another contributory factor has been the planned migration of Londoners to the expanding towns, which began in a small way in the second period and led to the movement of 13,500 in the third period. But the major factor in the acceleration of growth has undoubtedly been voluntary migration which was negligible in the first period, but which amounted to a net gain of 47,000 in the third period. East Anglia attracted migration at a higher rate than any other region in the five years up to mid-1966. Indeed, as the Registrar-General has said, if there is a population 'drift' within England and Wales it is a drift to East Anglia and the South West.

225. The incidence of change varied over the four sub-divisions. In the period 1961–66 the south-west sub-division showed the greatest population increase both relatively and absolutely—a rise of 33,000 or 11 per cent; the impact of town expansion schemes was greatest here and coincided with a relatively small reduction in the armed forces. The least growth was recorded in the north-west sub-division—12,000 or 4 per cent; voluntary migration was low, there was little population movement to expanding towns and there was a substantial drop in the armed forces.

226. Although town expansion schemes were not a major factor in the growth of the region's population, they had considerable local impact, especially in the southern part of Huntingdon and Peterborough and in West Suffolk.

Local population changes

227. Map 2 (in the pocket) shows local changes in private household population in two periods, 1961–61 and 1961–66*. Carrying the analysis down to parish level discloses the patterns of change which are quite obscured by the use of data relating to the very extensive rural districts of East Anglia. About half the population of the region lives in the 1,266 rural parishes; about three-quarters of the parishes have fewer than 600 inhabitants.

228. The increase in population in rural parishes averaged 5,000 a year between 1961 and 1961, but in the next five years, 1961–66, the increase averaged over 10,000 a year. Consequently the proportion of declining parishes dropped, from three-fifths to two-fifths, and the proportion of parishes showing substantial growth more than doubled—to reach one-third.

229. The parishes which showed substantial decreases were widely dispersed over the region in both periods and were mostly remote from the

*Figures for 1961 and 1961 are taken from the population censuses, but because relatively large emptying errors would apply to parish data from the 1966 census, the 1966 figures were derived from electoral rolls.

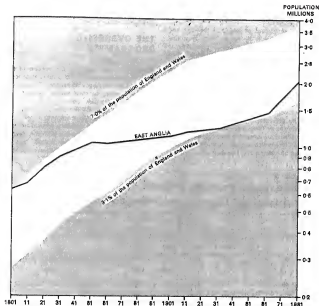


Fig. 11 East Anglia's population as a proportion of England and Wales 1901-1981

major towns. Parishes which showed a substantial increase between 1961 and 1981 were generally dispersed, but there were some concentrations, chiefly in the Cambridge area, and to a lesser extent near Ipswich, Norwich and Huntingdon. In the period 1961-66 the parishes with substantial growth were more numerous. They also showed a greater degree of concentration, especially around Cambridge, Ipswich, Norwich and Peterborough, and also along the lines of the A1 from St. Neots to Peterborough, the A45 from Ipswich to Newmarket, and the A47 from Norwich to Great Yarmouth.

230. The forecast of a future population of over 2 million by 1981, as shown in Table 4 and Figure 11, was prepared by the General Register Office (GRO). We have also considered a forecast prepared by the East Anglia Consultative Committee (EACC) which puts forward a 1981 population some 137,000 higher than this forecast. The two forecasts are compared in detail in Appendix 7. The Council has decided to adopt the GRO projection as the working basis for the Study,

not only because it takes specific account of international migration movements and is consistent with forecasts for other regions of England and Wales, but more especially because we consider it corresponds to a more likely rate of employment growth. Even if the growth of population should

TABLE 4
Future population growth
1966-81

	'000
Home population mid-1966	1,882
Natural increase of mid-1966 population	122
Net population movement from outside the region: to New and expanding towns to other places	226
Natural increase of net population movement	39
Home population mid-1981	2,005

Source: General Register Office.

turn out to be as great as the EACC forecasts, the strategy described in Part I is sufficiently flexible to accommodate it.

231. The movement of people to the New and expanding towns is by far the most important factor in the growth of East Anglia's population up to 1981. Most of the newcomers to these towns will come from London, but some people are also expected to come from other parts of the country and from other places within the region. Because migrants to New and expanding towns generally tend to be younger people, movement on this scale will mean that by 1981 we shall have one of the youngest populations in the country (see Table 5). 232. The growth expected varies over the four sub-divisions as Table 6 shows. Not surprisingly, the sub-divisions where the most growth is forecast are those which contain the major expansion schemes of Ipswich and Peterborough. The least

growth is expected in the North East sub-division, but even so the rate of growth is above the average for England and Wales.

THE OVERSPILL PROGRAMME

Town expansion

233. In the years following the passing of the 1952 Town Development Act a number of local authorities in East Anglia decided to bring new life and employment to their towns by providing houses for Londoners. There was no plan for selecting the most suitable towns for expansion; the present town development programme grew up from the sum of the decisions of local authorities. Ten now have agreements with the Greater London Council—six in West Suffolk, two in Huntingdon and Peterborough, and two in Norfolk.

TABLE 5
Change in age structure 1966-81
East Anglia and England and Wales compared

Age group	Population ('000)				% Change 1966-81	
	East Anglia		England and Wales		East Anglia	England and Wales
	1966	1981	1966	1981		
Persons 0-4	120	166	4,167	4,746	+46	+14
Persons 5-14	232	334	6,660	6,783	+60	+28
Males 15-44	342	420	9,708	10,771	+23	+11
Females 15-44	302	388	9,423	10,443	+32	+11
Males 45-64	184	211	6,771	6,631	+16	2
Females 45-64	146	169	4,734	4,324	+16	-9
Males 65+	85	101	2,245	2,541	+20	+27
Females 65+	174	168	6,136	5,844	+9	+14
All ages	1,582	2,006	48,076	53,383	+27	+11

Source: General Register Office.

TABLE 6
Population growth 1966-81 by sub-divisions*

Sub-division	Population '000		Increase 1966-81	
	1966	1981	Number '000	%
North East	567	664	87	15
South East	371	603	132	36
South West	343	433	90	26
North West	301	417	116	39
East Anglia	1,682	2,006	426	27

*Figures are rounded and may not add to totals.
Source: General Register Office.

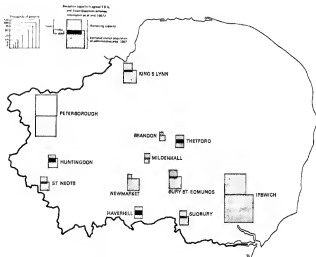


Fig. 12 Progress of overspill schemes

These agreements provide for the building of more than 22,000 houses, sufficient for more than 75,000 people, in the period up to 1981. At mid-1967, 6,742 houses had been completed, and the majority of the schemes are likely to be finished within ten to fifteen years of starting—during the mid-1970s—though the timing depends on the rate of industrial development and the general growth of employment. The schemes are listed in Appendix 8 and progress to date is shown in Figure 12.

234. The scheme at Haverhill (West Suffolk) is likely to be extended to accommodate a further 5,000 Londoners, and a larger extension at Thetford (Norfolk) is a possibility. A proposal for housing 30,000 Londoners at Norwich would, we understand, be acceptable in certain circumstances to the City Council. A possible estimate of the number of people who might be housed in additional town development schemes in East Angles up to 1981 could be about 50,000 more than the 75,000 cited above.

New Towns

235. In 1965 the Government announced its intention of promoting major expansions at Peterborough and Ipswich under the 1965 New Towns Act, and studies by consultants were made. Peterborough has been designated a New Town and the Peterborough Development Corporation

appointed. The draft Designation Order for Ipswich has been published and the results of a local inquiry into objections are awaited.

236. It is proposed to provide homes, jobs and other facilities for 70,000 people, mostly Londoners, in each town by 1981. It is expected that by the end of the century, Peterborough will have a population of about 200,000 and Ipswich about 250,000.

237. These towns were selected for planned growth on a large scale because they are far enough away from the London conurbation to ensure that the expanding communities will have a new and independent life of their own, and they should be able to make an effective contribution to the prosperity of the region. In addition, both are mature towns with an inbuilt potential for further industrial and commercial development. They already have a wide range of facilities and relatively good external communications, and should prove attractive to new industrial, commercial and office development.

238. A high rate of housebuilding will be required to sustain the intake programme and there will be need to relate it closely to the creation of new jobs, arising both from existing and incoming firms. The social integration of new citizens and old will also be a vital task. To assist this process, it is hoped that through common management of public housing the present inhabitants will be able to live

side by side with the newcomers from the start, both in the expansion areas and in the existing towns. The aim to provide for 50 per cent of the new houses to be owner-occupied should also help to establish more balanced communities than in earlier New Towns.

239. In total, East Anglia is likely to provide homes

between 1966 and 1981 for a quarter of a million people in expansion schemes under the New Towns and Town Development Acts. Much the greater proportion is expected to come from London, which means that the region will be contributing directly and on a big scale to reducing congested housing conditions in Greater London.

3 Employment and Industry

SUPPLY OF LABOUR AND EMPLOYMENT STRUCTURE in 1966

Supply of labour

240. Table 7 shows the numbers of employees (including the unemployed) in 1966 as estimated by the Department of Employment and Productivity, analysed by the same age groups as used in Table 1. The age distribution in East Anglia is very similar to that of England and Wales, the largest disparity being for females aged 15-19*. As there is no 'bulge' in actual numbers in this age group†, this may be due to the fact that young people in East Anglia tend to leave school rather earlier than the average.

241. The number of employees in employment in June 1966 was 608,000. The region has an unusually large proportion of self-employed because it has a high level of activity in agriculture,

horticulture, hotels and catering, plus a normal share of small businesses in distribution, professional services, etc. The 1966 population census figure for self-employed was 59,000, of whom 48,000 were males. As a proportion, the self-employed represented 8.4 per cent of the economically active in the region, compared with 6.5 per cent in England and Wales. In June 1966 there were about 8,000 registered unemployed persons. From the point of view of the potential supply of labour, the most important group of the remaining population was the 357,000 females principally engaged in household duties, of whom 230,000 were married women.

Employment structure 1966‡

242. The broad employment structure of East Anglia compared with that of England and Wales is displayed graphically in Figure 13, and more detailed comparison by Standard Industrial Classification Order is given in Figure 14 and Appendix 8, 243. There are some industries where significantly

*Smaller discrepancies may be caused by rounding and sampling error.
†See Part II, Chapter 2, Table 1.

‡The 1967 employment structure for the region as a whole is given in Appendix 10.

TABLE 7
Employee totals 1966*

Ages	East Anglia		England and Wales %
	Number '000	%	
Males			
15-19	41	10	10
20-44	303	80	80
45-64	180	37	36
65 +	12	3	3
15 +	433	100	100
Females			
15-19	40	19	17
20-44	87	45	47
45-64	61	29	30
65 +	12	6	7
15 +	211	100	100

*See Glossary. Figures are rounded and may not add to totals.
Source: Department of Employment and Productivity.

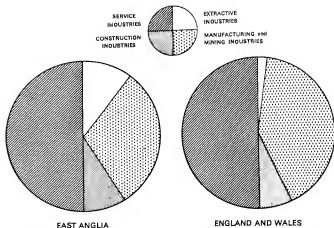


Fig. 13 Employment structure by sectors, 1986: East Anglia and England and Wales

more than the national proportion are employed, such as agriculture; food, drink and tobacco; timber and furniture; and construction. The group of industries which does approximate to the national pattern includes most of the service industries, and certain manufacturing industries—clothing and footwear, paper and printing, engineering and electrical goods. There is a group of industrial orders where a significantly smaller proportion is employed. These are mostly manufacturing orders—shipbuilding; bricks, pottery, glass, cement, etc.; chemicals; vehicles—and one important service—insurance, banking and finance—which is concentrated in London. Finally, there are several industries which are totally or virtually absent from the region. These include metal manufacture, textiles, metal goods (as distinct from engineering) and coalmining.

244. In 1986 East Anglia had a lower proportion of employed labour resources engaged in manufacture than any region in Great Britain except the South West. Manufacturing as a whole accounted for 31 per cent of total employment, compared with 38 per cent in England and Wales. In absolute terms the numbers are also small. It must also be remembered that the figures cover the employee population only: the self-employed are mainly engaged in agriculture, distributive trades and miscellaneous services and therefore further reduce the relative size of employment in manufacturing in the region.

245. The proportion of employees in the service industries is about average. The proportion in manufacturing and services was increasing be-

tween 1961 and 1986, while that in agriculture was falling sharply.

246. Most of the industries showing national decline in employment, such as coalmining, shipbuilding and textiles, have proportionately low numbers of employees in East Anglia or are absent from the region. The one industry in East Anglia that is shrinking in employment terms—agriculture—is in other respects a growth industry.

EMPLOYMENT CHANGE 1961-67

247. Table 8 illustrates the changes in numbers of employees in employment that have taken place between 1961 and 1967. While there has been an overall upward movement both in male and female employment, it can be seen that growth has not been uniform from year to year, particularly for males. These changes are to some extent related to economic fluctuations, but they are also affected by changes in the methods adopted by the Department of Employment and Productivity in making the employment estimates, particularly for 1961-62 and 1963-64.

248. When employment data are broken down geographically into the statistical sub-divisions (Table 9) and expressed as percentage changes, two interesting features emerge. First, the overall growth in the region over the period 1961-68 has been of similar proportions in each of the four sub-divisions, although the North West has a marginal 'lead' over the other three, i.e. 11.9 per cent change as compared with 10.7 per cent in the South West, 10.0 per cent in the South East

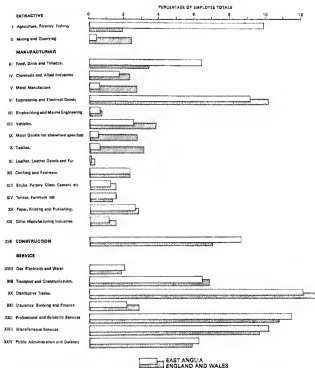


Fig. 14 Employment structures by Standard Industrial Classification Order 1986: East Anglia and England and Wales

and 9.9 per cent in the North East. Secondly, female employment in the region has expanded at roughly twice the male rate. Again, this is equally the case in the sub-divisions except in the North West, where female employment growth has been three times as great as for males.

249. The bar diagrams in Figure 15 and Appendix 11 illustrate the employment changes by industrial order between 1961 and 1966. The most marked absolute changes have been the decline in agriculture, forestry and fishing, and the gains to engineering and electrical manufacture, and professional and scientific services. Appendices 15 to 18 give detailed statistics on industry in the sub-divisions.

UNEMPLOYMENT

Unemployment experience 1962-67

250. Unemployment rates for East Anglia as a

whole have been fairly close to national rates in recent years: above those of the South East Region but lower than most of the other regions. Table 10 shows that these overall East Anglia rates have been made up of higher rates in the North East and North West sub-divisions and lower rates in the South East and South West sub-divisions. The absolute numbers of unemployed in the whole region have ranged between the winter maximum of 26,521 in 1963 and the summer minimum of 5,415 in 1965.

251. Examination of the period 1962-67 indicates a fairly constant pattern of movement in all the sub-divisions. The 'winter maximum' figures show a falling trend from 1962 to 1965 (interrupted only by the unusually bad weather in 1963), a levelling-off in 1965-66 and a sudden rise in 1966-67 to a point a little higher than the 1962 figures. The 'summer minimum' figures show a similar pattern.

TABLE 8
Employment change 1961-67

100

	Males		Females		Total	
	Employees	Change	Employees	Change	Employees	Change
1961	373.2		193.6		667.0	
1962	381.7	+8.6	181.9	+8.1	673.6	+16.6
1963	384.6	+3.1	184.6	+2.8	678.6	+5.0
1964	366.6	-18.0	201.1	+16.3	660.7	+11.1
1965	359.2	-7.4	208.7	+7.6	667.9	+7.2
1966	368.2	+9.0	210.4	+1.7	668.6	+10.7
1967	365.4	-2.8	210.2	-0.2	668.6	-3.0

Source: Department of Employment and Productivity.

TABLE 9
Employment change 1961-66*: East Anglia sub-divisions

Unadjusted estimates of employees†

100

	North East sub-division			North West sub-division			South East sub-division			South West sub-division		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
1961	131.8	69.9	201.8	68.2	29.6	97.7	84.1	37.2	121.3	67.7	36.2	103.9
1966	142.7	79.0	221.7	73.2	36.0	109.3	86.8	43.6	130.6	73.2	41.6	114.8
Change	+10.9	+9.1	+19.9	+5.0	+6.4	+11.6	+2.6	+6.4	+12.2	+5.5	+5.4	+11.1
% Change	8.3	13.0	9.9	7.3	22.0	11.9	3.1	17.2	10.0	8.1	15.0	10.7

*Sub-divisional estimates for 1967 not available at time of going to press.

†See Glossary.

Source: Department of Employment and Productivity.

TABLE 10
Unemployment, East Anglia 1962-67*

Sub-division	1962		1963		1964		1965		1966		1967	
	Winter max.	Summer min.	Winter max.	Summer min.	Winter max.	Summer min.	Winter max.	Summer min.	Winter max.	Summer min.	Winter max.	Summer min.
North East	5,576	3,361	12,834	3,871	6,397	3,195	5,704	2,723	5,042	2,818	5,956	3,061
	Percentage	1.5	5.7	1.7	2.8	1.4	2.6	1.2	2.2	1.2	2.7	1.8
South East	2,431	1,618	5,473	1,648	2,104	1,166	1,887	1,103	2,607	1,146	2,877	2,376
	Percentage	1.8	4.3	1.3	1.6	0.9	1.3	0.8	1.9	0.8	2.2	1.8
South West	572	681	3,344	695	819	424	657	497	822	572	1,654	1,216
	Percentage	0.5	2.9	0.5	0.8	0.3	0.6	0.4	1.0	0.5	1.4	1.0
North West	2,962	1,294	5,170	1,266	2,583	1,068	2,423	1,082	2,395	1,144	3,137	2,202
	Percentage	2.8	1.2	4.7	1.1	2.3	1.0	2.2	2.2	1.0	2.9	2.0
East Anglia	12,401	6,854	26,023	7,322	12,063	5,873	10,471	5,415	10,276	5,080	13,523	9,757
	Percentage	2.2	1.2	4.7	1.2	2.0	1.0	1.7	0.9	1.7	2.4	1.7

*The maxima and minima quoted do not necessarily occur in the same months each year.

Source: Department of Employment and Productivity.

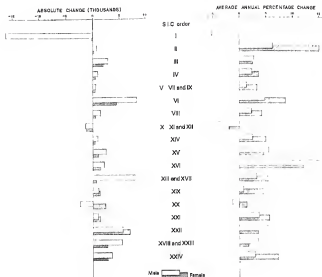


Fig. 16 Employment change 1961-66 (employees in employment)

252. The higher 1967 unemployment rates are attributable to the successive deflationary measures. The gap between winter and summer unemployment levels has narrowed: the summer minima have risen more sharply than the winter maxima, particularly in the South East and the North West sub-divisions. These results refer, of course, to a single year only, and a run of years will be necessary before reaching firm conclusions.

Labour reserve

253. In October 1967 the Council carried out a sample survey of the unemployed register in the region. On the basis of this an estimate of the labour reserve has been made. It is hoped to publish a full account of the survey later in 1968.

254. Because unemployment rates include a number of persons who are very difficult to employ, they do not give an accurate indication of the size of the labour reserve in an area. The labour reserve contains the people on the register who would be in employment if there were adequate and suitable opportunities. Both the 1964 *National Survey of the Characteristics of the Unemployed*⁴ and 1967 *East Anglia Survey* (not published) made an attempt to estimate the reserve based on the opinion of employment exchange managers. In

Great Britain in 1964 managers estimated that 17 per cent of the sample would have been in employment but for the lack of local opportunity; in 1967 in East Anglia the figure was 20 per cent. It is difficult to make comparisons over time, but it seems that on the subjective criterion used, the labour reserves in Great Britain and East Anglia were broadly similar proportions of the unemployed registers†.

255. There is, however, a need for a more objective measure, because subjective assessments will vary from locality to locality. We have therefore calculated a labour reserve rate on the basis of Survey data by excluding from the total unemployed those out of work for less than one month and certain clearly defined groups whose employment prospects are known to be markedly less good than those of the majority of registrants. It is not suggested that any of these latter registrants is completely unemployable, nor that the Department of Employment and Productivity has in any sense given up its efforts to place them in employment. Nevertheless, it has to be faced that their prospects are not as good as those of the average, fit, younger registrant and that no employer could possibly recruit for a new establish-

⁴Published in the Ministry of Labour Gazette, April 1968.

†There are also employable people who are not registered—for example, married women—who would become available if there were opportunity.

TABLE 11
Labour reserve rates October 1967

	Total employees* No.	Wholly unemployed No.	Unemployment rate %	Labour reserve rate %
East Anglia	619,000	10,810	1.8	0.6
Northern exchanges†	67,000	2,270	2.3	0.6
Great Yarmouth and Lowestoft	61,000	1,770	2.9	1.1

* June 1968 estimate of employees in employment, together with October 1967 unemployed. No estimate of employees in employment for June 1967 were available at the time for the northern exchanges or Great Yarmouth and Lowestoft.

† Northern exchanges group comprised the following exchange areas: Wisbech, March, Ely, King's Lynn, Downham Market, Swaffham, Gorleston, Hunstant, Foulness, Cosser and Ayltham.

Source: 1967 Survey.

ment a labour force which consisted wholly or mainly of such people. The labour reserve has therefore been defined as the unemployed register minus the following groups of unemployed persons: (a) those unemployed for less than one month, (b) the 60+, (c) the 55+ who were registered for clerical work, (d) the disabled, (e) those with a very poor employment record. The labour reserve rate is the labour reserve expressed as a percentage of the employee total. On this basis the labour reserve rates shown in Table 11 have been calculated.

256. Labour reserve rates for both the northern exchanges and Great Yarmouth and Lowestoft are above the rate for East Anglia. The difference between the two areas in the region may be explained by seasonal factors: the holiday season would have finished in Great Yarmouth and Lowestoft in September, but in the northern exchanges the seasonal demand for agricultural labour would still be high.

Future levels of unemployment

257. For purposes of estimating future labour supply in paragraphs 258-264 and 361-369, the unemployed are counted with employees in employment. Unemployment in June 1966, the base data for forecasts, was 6,000, an unusually low level. In January 1966 it was nearly 14,000. Although this latter figure is unusually high for seasonal and cyclical reasons, the Government's policy for the future makes it unlikely that unemployment will fall so low as 6,000 in the next few years.

FUTURE SUPPLY OF LABOUR 1971 and 1981

Activity rates*

258. Activity rates are a ratio between the number of employees in employment plus the unemployed and the home population aged 15 or over. East Anglia's activity rates are lower than national activity rates by 10.4 per cent for males and 6.7

per cent for females. Factors that partly account for the relatively low male rate in the region are the higher than average numbers of self-employed, the large number of university students and the armed forces who are not counted as employees but are included in the home population. Allowing for these three categories, the difference between the national and regional male activity rates narrows to 3.8 per cent, and this difference might be even further reduced if the higher than average number of retired in the region was also taken into account. 256. All four factors will still be present in the future—self-employment, which fell between 1961 and 1966 by 6,000 approximately, may continue to decline, but the number of students will increase, and there is no reason to think that either retired people or armed forces will diminish in number. It therefore seems unlikely that, so far as the existing population of East Anglia is concerned, male activity rates will increase with any rapidity. In fact, they may well decline in line with the national trend. On the other hand, female activity rates appear in the region to be unaffected by the factors listed, and there are grounds for believing that as the extent to which East Anglia depends on agriculture reduces and as it becomes more urbanised, its female activity rates will move upwards to a position which is nearer to that of the industrialised regions. The younger age structure in the future can also be expected to raise the activity rates.

A forecast of labour supply 1971 and 1981

260. It is possible to estimate the approximate size of the labour supply as a range of probability for 1971 and 1981. Full details of the methods used are given in Appendix 12. The estimates reached are in Table 12. They take account of the size and age structure of the projected population in 1971 and 1981 and assume that higher proportions of people moving into the region will take employment than will the existing population, and that an increasing proportion of the native female population will be taking employment.

*See Glossary.

TABLE 12
Forecasts of labour supply 1971 and 1981

Year	Males		Females	
	Labour supply '000	Activity rates %	Labour supply '000	Activity rates %
1966	403.2	66.0	211.4	33.8
1971	410.6— 419.3	66.6— 67.2	217.7— 226.1	33.7— 36.0
Difference 1966-71	+7.4— +16.1	0.2— 1.2	+6.3— +14.7	0.2— 11.1
1981	466.2— 517.6	66.6— 70.6	266.4— 295.6	36.1— 39.1
Difference 1966-81	+165.0— +114.3	+0.6— +4.6	+154.0— +164.2	+11.2— +6.2

261. A striking conclusion is the relatively small additional supply of labour that will be requiring employment between 1966 and 1971 (some 7,000-16,000 males) and the relatively large increase in labour supply (some 78,000-98,000 further males) expected between 1971 and 1981.

Labour supply in New and expanding towns 1981

262. In paragraphs 381-389 we attempt to estimate the probable labour supply and demand in the eight main town development schemes in the region as at 1971. By 1981, these schemes will have been joined by two very much larger New Town projects, which will be well under way at Peterborough and Ipswich, plus, possibly, an important scheme for the expansion of Norwich. For the year 1981, therefore, it is necessary to look at all these projects together. Taking into consideration only the net migration of 228,000 people from outside the region to these towns, it is possible to estimate for 1981 the additional labour supply that might result from that source. For this calculation we assume that the male/female proportions and the age structure of this migration

will be similar to those of past migration to New Towns and Town Development Act schemes since 1960.

263. Table 13 shows that some 66 per cent (around 112,000 persons) of the entire increase in labour supply in East Anglia expected between 1966 and 1981 can be attributed to net migration from outside the region to New and expanding towns.

264. In addition to these totals the New and expanding towns will have to take account of the additional supply resulting from natural increase of the local population and from migration originating within the region.

THE INDUSTRIES IN THE REGION AND THEIR PROSPECTS

265. We have found it very difficult to arrive at realistic and reliable judgments of the economic performance and prospects of the major industries in the region. In part because the basic statistics on output (apart from agriculture) are not yet available regionally.

TABLE 13
New and expanding towns: labour supply from net migration 1966-81

	Males	Females	Total
Net migration from outside the region	114,780	110,260	225,000
Of which — aged 16+ in 1981	88,400	86,400	174,800
Activity rates	64.0	44.1	—
Additional labour supply, 1966-81, as a result of net migration from outside the region	74,200	36,100	112,300
Percentage of total additional labour supply in East Anglia	74	66	66

266. Nevertheless, we have felt that we should include in this Study our Impressions, which are based on national trends and on information gathered by the Planning Board. We have tried to take account of the possible effects of the November 1967 devaluation. Whenever possible, we have sought corroboration of these impressions, but we appreciate that they are largely subjective.

267. We set out below our assessment of the prospects for 18 main groups on the basis of the Standard Industrial Classification. Each group has a large enough number of employees to permit calculation of past employment growth rates and estimation of future rates of change. (The summary of future estimates is given in Tables 25 and 26.)

268. Although East Anglia has a number of industries in which growth of output can be foreseen, a comparable expansion of employment is much less certain. In common with the rest of the country, East Anglian industries have been trying hard to increase productivity, and they are affected also by the trend towards larger and more competitive units. Our forecast employment growth rates in manufacturing industry are consistently below past growth rates, first because they estimate future growth of indigenous industry only, whereas past rates include new industry moving into the region, and secondly because they take into account productivity gains and the decreasing availability of labour in some areas. For service industries the forecast employment growth rates take account of demands from an increased population.

269. In this section current employment figures relate to 1966 as the base year for the 1966-71 projection period. Employment figures for 1967 are given in Appendix 10.

Agriculture, Horticulture, Forestry and Fishing

(Standard Industrial Classification SIC Order No. 1.)

270. Agriculture and horticulture and the industries that support and flow from them occupy a leading position in the economic and social life of the region.

271. East Anglia comprises only about 6 per cent of the area of England and Wales, but it contains a high proportion of the good quality land in the country. Some 2½ million acres are used for agriculture and horticulture, of which about 16 per cent is classified as very good land and a further 61 per cent as good quality land, compared with figures of 8 per cent and 44 per cent for England and Wales. An illustration of the land quality distribution of the region is given in Figure 16. The versatility and fertility of the soils, the easily worked terrain and favourable climate have encouraged the more intensive forms of husbandry. Table 14 shows that while East Anglian farming is predominantly arable, non-grazing stock, i.e. pigs and poultry, is important over a wide area, and

dairying, beef cattle and sheep are important in several localities. The region provides a substantial proportion of important crops, including over half the sugar beet acreage of England and Wales, about a quarter of the fruit and vegetables and about a fifth of the wheat, barley and potatoes.

272. *Structure of the industry.* Divided among some 25,500 separate holdings of more than one acre, the agricultural and horticultural industry provided work in 1967 for about 58,000 employees or 10 per cent of the region's employee total*. In addition, there are some 20,000 who are self-employed as farmers and growers. It is estimated that some 12,500 holdings provide full-time employment for their occupiers and the rest provide part-time employment. Ten years ago there were 31,000 holdings in the region, and the rising trend towards larger units has been slightly above the average for the country. There are proportionately more large farms (mainly engaged in cereal production) in East Anglia than in England and Wales as a whole, fewer of middle size (traditionally associated with milk production) and more small holdings (engaged in fruit and vegetable production or other intensive husbandry). Table 15 shows the 1967 distribution by size of all agricultural holdings in the region. The larger farms constitute the bulk of the agricultural land: farms over 300 acres represent only 9.1 per cent of the total holdings, but occupy 58.2 per cent of the total agricultural land, whereas holdings under 5 acres represent 27.2 per cent of the total but occupy only 0.7 per cent of the agricultural land.

273. *Capital.* The striking increase in productivity of agriculture in the post second world war years has been achieved in part by greater capital investment. During the last twenty years the rate of investment has increased substantially in real terms, and agriculture is now a capital intensive industry. The amount of capital employed on farms would range around an average of £5,000 for each whole-time employee. If the value of the investment in land and fixed equipment is added, the capital employed would be between £25,000 and £40,000 for each man. The amount of new capital per man currently being invested in agriculture is greater than that for manufacturing industry generally.

274. In the region the landowner, the owner-occupier and the tenant farmer still provide the principal sources of capital, and the equity is supported by the banks and other credit agencies, but with the increasing capital intensity of farming there has been some development of joint stock farming enterprises raising capital on the public market.

275. *Marketing.* In recent years there has been a growing awareness of the industry's general marketing weakness. Much has been done or initiated within the industry itself and by the Government to improve market competitiveness

*Source: Ministry of Agriculture, Fisheries and Food.

VERY GOOD and GOOD 79%
(England and Wales 49%)



MEDIUM 17%
(England and Wales 33%)



POOR AND VERY POOR 4%
(England and Wales 18%)



Fig. 16 Land quality

TABLE 14

Crop areas and livestock numbers in East Anglia compared with totals for England and Wales, June 1967

Crop	Appreciation of relative significance of East Anglian production	East Anglia	England and Wales
		Thousand acres	
Arable	67% of East Anglia is arable compared with 56% for England and Wales	2,126	14,166
Permanent grass	13% of East Anglia is permanent grass compared with 42% for England and Wales	323	10,143
		2,449	24,309
Wheat	SUBSTANTIAL —30% of E/W acreage and above average yields	480	2,233
Barley	SUBSTANTIAL —17% of E/W acreage and above average yields	567	5,231
Oats	MODEST —Only 3% of E/W acreage	45	522
Sugar beet	EXCEPTIONAL —Over 50% of E/W acreage. Norfolk is the main area	247	480
Potatoes	SUBSTANTIAL —30% of E/W acreage. Mainly in the Fens	105	823
Orchard fruit	APPRECIABLE —13% of E/W acreage. Important over East Anglia generally. Main centres are Wisbech, Cambridge, Huntingdon	23	175
Small fruit	EXCEPTIONAL —33% of E/W acreage. Important over East Anglia generally. Main centres are Wisbech, Cambridge, Huntingdon	11	34
Vegetables	SUBSTANTIAL —26% of E/W acreage. Each area has its own intensive specialisation, e.g. cabbages in north-west Norfolk	109	368
		Thousand head	
Cattle	MODEST —4% of E/W numbers. Cattle rearing and milk production of local importance in Norfolk and East Suffolk	358	8,003
Sheep	SMALL —Only 1% of E/W population	195	18,552
Pigs	SUBSTANTIAL —17% of E/W numbers. Very high population in the Suffolk	981	5,538
Poultry	APPRECIABLE —14% of E/W numbers. Norfolk is the main area	14,510	104,700

Source: Ministry of Agriculture, Fisheries and Food (Eastern Region) Agricultural Census Returns 1967.

TABLE 15

Agricultural holdings in East Anglia 1967

Size groups Acres	Holdings No.	% of total number of holdings	Area Acres	% of total agricultural area	Average area per holding Acres
Under 5	4,958	27.2	15,458	0.7	2-55
5-10½	5,622	22.8	67,311	2.3	9-84
20-50½	5,800	25.8	330,308	13.2	50-54
100-299½	3,674	15.1	692,574	27.5	178-77
Over 300	2,337	9.1	1,411,430	55.2	603-84
Total	26,581	100	2,810,081	100	98-06

Source: Agricultural Census June 1967.

and quality and to strengthen intelligence and research, and there has been a steady growth in the development of authorities for specific commodities. The introduction of a statutory grading procedure for horticultural produce is likely to be of particular importance to East Anglia.

276. *Irrigation.* One means of dramatically raising productivity in some areas and with some crops is by the use of spray irrigation. In recent years this has been extended from market gardening to farm crops. Considerable further potential use exists, particularly on the lighter soils. In general, vegetables, potatoes and fruit justify the additional cost of irrigation more than do sugar beet, grass and cereals. With cereals, which occupy two-thirds of the region's arable land, only a small proportion on lighter soils can show an economic return for the water used.

277. *Looking ahead.* Over the last few years the national average annual increase in output per man in agriculture has been well above the national average for industry generally. In the last ten years East Anglian agricultural production has gone up by about one-third, while the labour force has gone down by over one-third. Keeping this up will mean larger and fewer holdings, more capital investment and sustained technological and management progress leading to fewer but more highly skilled and better paid workers and higher production per acre.

278. In the years ahead it is expected that there will be a further increase in cereal production in the region, involving both higher yields and an increased acreage. Vegetable production should also increase substantially and, because of increasing specialisation, the region might well become the most important area in the country for vegetables. The future for soft-fruit production is reasonably good. The longer term future of top-fruit production makes its future less certain because the region is nearly at the edge of the northern geographical limit for the economic production of certain top-fruits and some continental countries enjoy more favourable climatic conditions. With livestock there will probably be a marked trend towards more intensive units. A decline in gross-fed beef appears to be inevitable because of the poor returns that livestock grazing gives in relation to other forms of land use; but intensive beef production and possibly even intensive milk production may become important features of the region's agriculture in the future. The paddock grazing of dairy cows is on the increase and there are moves towards larger and fewer herds and an increasing awareness of stocking densities on green-land, the use of nitrogenous fertilisers and greater mechanisation of feeding and dung disposal. East Anglia is expected to maintain its place as one of the country's most important areas for pigs. With poultry there should be a sustained increase in broiler production and the emergence of fewer and larger egg producers; the general picture suggests a movement of producers towards the source of feed.

279. In the event of entry into the Common Market there would be some fundamental changes in the method of government support for the industry and problems of readjustment. An assessment of the main implications for British agriculture of the EEC agricultural policy was included in the 1967 White Paper*. It suggests that increased costs would fall on dairy, pig and poultry farmers who, with certain sections of the horticultural industry, could expect to find their profits reduced. Those parts of the country which are predominantly arable, or are producing cattle and sheep, could be expected to do better than areas concentrating primarily on milk and other livestock. On this basis, the prospects for East Anglian agriculture, with about two-thirds of its predominantly arable acreage given over to cereal production, seem generally encouraging. Changes in relative profitability would, however, inevitably have repercussions on the pattern of East Anglian production as farmers sought to readjust to new levels of prices and costs.

280. *Broodstock.* The broodstock industry centred on Newmarket makes a contribution to exports assessed at over £1½ million annually.

281. *Forestry.* The region has about 160,000 acres of forest land, of which about 66,000 acres are owned or leased by the Forestry Commission. The private woodlands are distributed on the higher ground of north Norfolk and Suffolk, while most of the state forests are in the Breckland area. Thetford Forest is unusual in Great Britain in being relatively isolated from other large forests, but its maturing has been phased to sustain a complex of local wood-using industries, including at present a chipboard factory and a number of sawmills.

282. The current production is about 6,260,000 cubic feet of wood per annum, and this volume will rise steadily. About 1,000 men are employed in the woods and rather less than this number in directly associated activities such as transport and sawmilling.

283. *Fishing.* The fishing industry continues to make a useful contribution to the economy of East Anglia. Fish landed by British vessels in East Anglian ports in 1966 was valued at about £3½ million, of which £3 million was demersal (plaice, cod, haddock, etc.), £½ million pelagic (mainly herring) and £½ million shellfish. In 1966 there were about 1,300 full-time fishermen in the region, of whom about 1,000 were based at Lowestoft. There has been a steady increase in recent years of white fishing, off-setting the decline in East Anglian herring fishing.

284. Lowestoft is an important source of good quality white fish at a time when quality is of increasing importance; nearly one-third of all plaice landed in England and Wales comes to the port, and there has been rapid development of the fish-freezing and processing industry nearby. The fleet is modern and efficient and plays an important part in the economy of the port, but a recurring

*The Common Agricultural Policy of the EEC. Cmd. 3274. HMSO 1967.

TABLE 16
Labour on agricultural holdings

	Workers as at June 1967		Reduction in regular whole-time workers				
	Regular	Seasonal or casual	Total all workers	1967-68		1962-67	
	Whole-time	Part-time		No. of workers 1967	No. of workers 1962	No. of workers 1967	% drop in 10 years 1957-67
Cambridgeshire and the Isle of Ely	7,685	1,371	12,588	12,464	10,211	10,211	24.5
						7,685 (see Note 10)	36.5
Huntingdonshire and Peterborough	3,207	474	5,363	4,227	3,394	3,397	11
Northfolk	17,686	2,287	24,866	23,746	22,443	17,489	25.5
Southfolk	10,696	1,464	15,176	14,220	14,853	10,996	24.5
Total: East Angles	35,276	5,796	58,023	62,657	51,691	38,376	37
Total: England and Wales	276,143	47,624	387,081	449,096	367,628	279,143	24
						367,628	37.5

Notes: 1 There are some differences in the figures provided by the Ministry of Agriculture, Fisheries and Food and by the Department of Employment and Productivity. The figures are based on the agricultural census and exclude the occupier, his wife and his children under 16 years of age. The figures are based on the 1967 census and exclude non-agricultural workers, while some part-time workers may be recorded in another industry.

2 The 1967 agricultural census also gives the first time in an occupation for regular whole-time males above in Appendix 2. Through no fault of its own, the Department of the Census and Statistics has not yet published the figures for the 1962 census.

3 East Angles has a smaller proportion of younger workers and a larger proportion of older workers than in England and Wales as a whole.

4 The 1967 census also gives the first time in an occupation for regular whole-time males above in Appendix 2. Through no fault of its own, the Department of the Census and Statistics has not yet published the figures for the 1962 census.

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10 The 1967 census also gives the first time in an occupation for regular whole-time males above in Appendix 2. Through no fault of its own, the Department of the Census and Statistics has not yet published the figures for the 1962 census.

11 The 1967 census also gives the first time in an occupation for regular whole-time males above in Appendix 2. Through no fault of its own, the Department of the Census and Statistics has not yet published the figures for the 1962 census.

12 The 1967 census also gives the first time in an occupation for regular whole-time males above in Appendix 2. Through no fault of its own, the Department of the Census and Statistics has not yet published the figures for the 1962 census.

13 The 1967 census also gives the first time in an occupation for regular whole-time males above in Appendix 2. Through no fault of its own, the Department of the Census and Statistics has not yet published the figures for the 1962 census.

14 The 1967 census also gives the first time in an occupation for regular whole-time males above in Appendix 2. Through no fault of its own, the Department of the Census and Statistics has not yet published the figures for the 1962 census.

problem is the shortage of skilled crews. There is a keen demand for the products of the shellfish industry, which provides a useful source of employment at some of the small inshore fishing harbours.

285. *Employment in agriculture, forestry and fishing.* Employment statistics for the period 1957-67 in Table 16 show that the number of regular full-time employees in agriculture has declined by over one-third. This is a rate of decline of some 3 per cent per annum over the period, but in recent years the figure has tended to be higher than this average. The decline is expected to continue for some time yet, although probably at something less than the very high rates of recent years. Changes for each year from 1950 to 1967 are shown in Appendix 13 and an age breakdown of male workers for 1967 is given in Appendix 14. Seasonal and casual labour is a particular feature of the type of farming in areas like the Isle of Ely and parts of Norfolk.

288. The estimates of the future employees in employment in agriculture, horticulture, forestry and fishing anticipate a further decrease in male employees of 4.2 to 4.8 per cent per annum, and for the few females a change within the range of between -0.2 per cent and -0.4 per cent per annum.

Mining and Quarrying (SIC Order No. II)

287. Mineral working is of lesser importance in East Anglia than in most other regions of the country. The major mineral assets are sand and gravel and brick-clay.

288. *Sand and gravel.* Sand and gravel production in East Anglia amounted to 4.3 million cubic yards in 1966 (see Table 17), approximately 5.3 per cent of the England and Wales total. The major sources are valley gravels, most widespread in the western part of the area but found along all the major river valleys, the Fen-edge gravels, particularly important north-west of Peterborough, and the scattered glacial gravels of Norfolk and Suffolk. Marine deposits are being dredged from banks off the coast of Suffolk and north Essex, but are

mainly landed in the London area. This source is likely to have increasing importance in the future. 289. The rising demand for sand and gravel has caused land-based supplies to become increasingly scarce in parts of the South East Economic Planning Region; the situation is likely to become more acute since it is estimated that the annual requirement of sand and gravel will double in the next decade. While East Anglia should be able to meet its own needs until 1981, including those for New and expanding towns, it is unlikely to be able to help meet the deficit in parts of the South East without encroaching on land of high agricultural or amenity value.

290. The government-sponsored Economic Minerals Survey began in 1966 a study of the glacial gravel potential of East Anglia. In addition, exploratory work is being undertaken to find new marine deposits in deeper waters off Suffolk and in the Wash. If workable deposits are proved, coastal sites will be needed for the establishment of wharves, processing plants and gravel storage areas. Alternative materials such as lightweight aggregates will also have to be used more extensively than at present.

291. *Other minerals.* Siliceous sands are worked in the King's Lynn area and are used primarily for glass making, but also as moulding sands. Chalk underlies the whole of the region east of the Fens, but it is worked only in the western part and in certain river valleys, e.g. the Gipping and the Yare, as elsewhere it is concealed by newer sediments. The bulk of the output is from three pits—two in Cambridgeshire and one in East Suffolk—which supply chalk for cement making. Most of the smaller quarries produce material for agricultural use. Chalk reserves are believed to be adequate for future working. So, too, are those of the Lower Oxford Clay, which is of considerable importance in the western part of the region for the manufacture of flinton bricks.

292. *Employment.* Of some 2,000 employees engaged in mining and quarrying about 60 per cent are in chalk, clay, sand and gravel extraction, while a further 35 per cent are in various miscellaneous extractive industries. Future building and

TABLE 17
Sand and gravel production

	Thousand cubic yards						
	1960	1961	1962	1963	1964	1965	1966*
Cambridgeshire and Huntingdonshire (excluding Soke of Peterborough)	904	960	994	1,171	1,606	1,242	1,133
Norfolk	1,204	1,476	1,393	1,479	1,676	2,011	1,849
Suffolk	634	1,092	1,104	1,061	1,337	1,310	1,266
	2,642	3,627	3,491	3,700	4,618	4,663	4,347

*Provisional figures

Source: Ministry of Public Building and Works.

civil engineering operations in East Anglia will probably increase demand for sand and gravel, but the numbers employed are too small for calculation of employment growth rates.

Food, Drink and Tobacco

(SIC Order No. III)

293. This group accounts for 36,600 employees, or 20.7 per cent of the employees in manufacturing employment, and is the second largest manufacturing category in the region. Most of the employees are engaged in fruit and vegetable processing; grain milling, brewing and malting are traditional to the region, and sugar beet processing is an important ancillary to agriculture.

294. The geographical distribution of food-processing concerns is governed by two location factors. First, most of the produce is bulky and expensive to transport and, secondly, much of it must be processed whilst fresh. The industry is therefore particularly concentrated in the main supply areas.

295. The traditional parts of the food-processing industry are finding their home markets well exploited and are unlikely to expand very fast. In recent years new methods of production have been introduced in order to maintain or improve the competitive position of many firms in the canning, milling and baking trades. Meanwhile, there are thriving new industries engaged in processing poultry and freezing and pre-packing fish, fruit and vegetables, and on balance the outlook is expansionary. The brewing and malting industry has tended in recent years to become concentrated in highly automated units, and some small breweries and maltings have been closed.

296. *Employment.* The food-processing industries in general are industries whose labour force is subject to seasonal fluctuations, the seasonal 'fringe' being mainly female. Some of the larger employers are in or close to New and expanding towns. With the influx of new industries competition for labour will intensify, and it is thought that female labour will find these newer industries more attractive than the seasonally influenced food and drink industries. These industries may find themselves unable to increase their female labour force to keep pace with the demand for their products.

297. Over the past few years the growth in this industrial sector has been at the rate of 2.7 per cent per annum for males and 2.4 per cent per annum for females. Growth is expected to be maintained, but at a slower rate.

Chemicals and Allied Industries

(SIC Order No. IV)

298. The chemical industry employs a comparatively small proportion of the manufacturing employees in East Anglia: 10,100 or 5.4 per cent. The major sectors in the region of this wide-ranging industrial group are fertiliser production (mainly compounds and superphosphates) and pest control chemicals, basic materials for plastic

goods, paint manufacture and the beginnings of fine chemical production.

299. On the basis of past trends a steady increase in home demand for fertilisers can be presumed. It is not expected that entry into the EEC would have any significant effect on fertiliser exports or imports. The rapid growth of plastic output is likely to continue, but it is doubtful whether in East Anglia there will be much increase in employment, at any rate in the short term.

300. Production of paint in the United Kingdom has been fairly static during the past few years and consumption is expected to show only a steady increase in the immediate future. This competitive industry is tending to become more efficient and centralised and East Anglia has benefited from this. Paint exports greatly exceed imports, and entry into the EEC would be unlikely to alter this to any extent.

301. *Employment.* The employment growth rate between 1961 and 1966 was 2.6 per cent per annum; only a slow rate of employment expansion is forecast for the period 1966-71.

Engineering and Electrical Goods

(SIC Order No. VI)

302. In the region this group covers a diverse range of products from heavy capital equipment to light consumer durables. It also includes highly specialised and sophisticated products connected with the scientific instrument and electronics industries.

303. Employment in the group in 1966 was 55,500, or 29.6 per cent of all manufacturing employment, an increase of 12,800 in the five-year period since 1961, of which 8,200, or 65 per cent, was in male employment. A quarter of the 55,500 was employed in electronics, one-fifth in electrical engineering, about one-twentieth in scientific instrument manufacture and the remaining half in a variety of mechanical engineering trades.

304. *Mechanical and electrical engineering.* Output of mechanical and electrical engineering has been increasing nationally at an average rate of 5 per cent per annum since 1960. About 40 per cent of output has been going into private and public home investment, and imports during this period have been high. The immediate prospect in the region is of very slow growth over the next year or two, but there is no reason to think that output in the next five years will not follow past trends. Unless output per man-hour increases more rapidly than in recent years, an increased labour demand and some labour shortages can be expected in East Anglia.

305. The agricultural machinery industry, which is of importance in the region, has a largely replacement home market, though this does not rule out some market expansion over the years, particularly as new and more sophisticated types of machinery emerge. Exports have increased and devaluation should help prospects further, but as developing countries industrialise they tend to

manufacture their own tillage implements rather than pay expensive transport costs for this heavy equipment. Nevertheless, other developing countries continue to open up fresh markets. Entry into the EEC might in the long run provide a useful fillip to exports, especially with the increase in prosperity of the EEC farmer.

306. The radio and television industry, despite its splendid growth record, is subject to cyclical fluctuations in consumer demand and has been experiencing a recession. The demand for these products is exceptionally sensitive to broadcasting policy on the one hand and to measures to control the economy on the other. Generally, a recovery in demand for television sets is expected now, which may grow as colour television stimulates demand. In radio the growth of local broadcasting may not only revive demand but help manufacturers to recover a higher proportion of their home market. The rate of replacement of used sets is also important. Trade in radio and television receivers between the United Kingdom and European countries is limited. The main foreign competition (chiefly in radios) comes from Hong Kong and Japan. It is expected that any rise in output over the next few years can be met by a more intensive use of existing plant, though colour television may require additional investment.

307. Recent trends in demand for electronic capital goods have been reasonably good, due mainly to the spread of electronics to new fields such as education, automation and the aircraft industry. Demand for these goods seems likely to increase, especially in the more developed countries.

308. Exports of electronic capital equipment are moderately good and seem likely to continue, especially since devaluation. The EEC could provide an increased market; the British lead in electronic technology is sufficient to ensure that we would be in a good competitive position. But competition from America may be expected to intensify when the war in the Far East comes to an end; Japan also is coming more and more into the capital goods field. There may be scope for structural re-organisation in key areas of electronic capital goods, and international companies may concentrate manufacture of certain types of equipment in one country. Size, however, is not everything and in some areas of electronics small dynamic firms will continue to have an important part to play.

309. On existing demand and performance a rise in output in the next five years is foreseen, but it would seem that in areas of labour shortage a more intensive use of labour will be required.

310. Electronic components have been seriously affected by the fall in home production of television and radio receivers and the import of cheap radio receivers and components. The British components industry is likely to be squeezed from both ends by the technological lead in sophisticated products held by the USA, and by the manufacture of simpler components by the less developed countries using cheaper labour and thereby

achieving lower prices. There would appear to be strong incentives for British manufacturers to press on with research and development of new components and new techniques to reduce the amount of production labour required.

311. With regard to exports to Europe the same considerations apply as to electronic capital goods, except that the advantage of the British technological lead is confined to certain sophisticated components.

312. Output in the next five years could undoubtedly increase by the fuller use of under-employed equipment, but further investment in plant and buildings will be required to keep abreast of new techniques (particularly in micro-circuitry) and to meet foreign competition.

313. *Employment in engineering and electrical goods.* The menning of this group of industries is constantly affected by technological change. This is markedly so in the electronics industry, as stressed in the Department of Employment and Productivity Manpower Research Unit Study No. 5*. This Study points out that in the electronics industry savings in manpower achieved by technological means are expected to be largely offset, and often exceeded, by increased demand in the country as a whole for the industry's products. Apart from the capital goods sector, a reduced demand in the industry is envisaged only for wiremen, sheet metal workers and labourers, but even this is likely to be so small that it will usually be met by normal wastage. The extent to which these national trends will be applicable in East Anglia is not known, because the East Anglian electronics industry is concentrated in a small number of large firms with international connections. The fortunes of particular establishments in East Anglia belonging to such groups could be affected by rationalisation or concentration schemes, such as have been experienced in other parts of the country recently, and might not follow the United Kingdom pattern very closely. With this important reservation it is possible to forecast continued employment growth in the electronic capital goods sector of more than 6 per cent per annum; in other sectors of electronics, growth is expected to exceed 3 per cent per annum. With regard to employment in engineering, similar considerations are expected to apply in relation to technological change which, it is felt, will bring about a reduced demand for unskilled manpower and an increase in demand for trained operatives.

314. in the engineering and electrical goods group as a whole, employment grew by 4.7 per cent per annum for males and 6.7 per cent per annum for females between 1965 and 1966. The forecast employment growth rates for the period 1966-71 are about half these rates for males and females.

Vehicles and Parts (SIC Order No. VIII)

315. The industry employs 15,300 or 9.2 per

*Electronics, H1980 1987.

cent of manufacturing employees. Motor cars are only marginally represented and the main emphasis is on diesel engines (for transport vehicles, tractors, boats and stationary engines), while there are substantial firms making specialised motor bodies, buses and large-size motor trailers and caravans. 316. The overall demand for commercial vehicles is expected to grow at about the same rate as in the recent past, with much of the growth resulting from the increased size and power of vehicles rather than increased numbers. Increases in the demand for tractors seems likely to be slow.

317. *Employment.* Employment in the industry in the region is unlikely to follow the trends of the national mass-production car industry. The employment growth rate for males and females combined was 2.4 per cent per annum between 1961 and 1966; we expect a rather slower increase in demand for labour, matching the needs of the diesel engine and caravan industries.

Clothing and Footwear

(SIC Order No. XIII)

318. *Footwear.* The making of ladies' fashion shoes and children's shoes has for many years been the staple manufacturing industry of Norwich. In 1966, 7,000 persons were employed, 3.7 per cent of the region's manufacturing employees. Employment in the footwear trade in Norwich has declined over the last five years, probably due to increased competition and increased productivity.

319. The demand for home-produced footwear is likely to be affected by the general economic situation and by competition from imports. Devaluation should encourage exports and reduce the competitiveness of many imports.

320. *Clothing.* Although the clothing industry is not one of the principal employers of labour in East Anglia, it has a long history of association with the region, and a considerable variety of garments are produced, including gloves, underwear, ladies' and men's clothing, plastic rainwear and industrial clothing. In 1966, 5,880 people were employed.

321. Against the national tendency, employment in the industry grew a little—by 3 per cent—in the five years 1961–66, mainly because of the introduction of three new firms, but at a slower rate than that experienced by manufacturing industry as a whole. The industry employs females to males in the ratio of four to one.

322. Devaluation may improve the competitive position of the home industry in spite of the probable post-devaluation increases in the price of wool cloth and cotton cloth.

323. *Employment in the footwear and clothing industries.* In the footwear industry, rationalisation and new techniques will reduce the labour content of shoe-making and employment may well continue to decline.

324. In the clothing industry higher output is expected to come primarily from better use of existing labour as the industry faces strong competition for skilled labour from other industries.

325. For forecasting purposes the clothing and footwear industries are grouped with the textiles industry (SIC Order No. X) and with the leather, leather goods and fur industries (SIC Order No. XI). Taking the three Standard Industrial Classification Orders together, there was a decline in employment of 3.6 per cent per annum for males and of 1.8 per cent per annum for females in the period between 1961 and 1966. Between 1966 and 1971 this decline is expected to moderate.

Timber and Furniture

(SIC Order No. XIV)

326. Nine thousand, four hundred persons were employed in the timber and furnishing trade—about half in each—in East Anglia in 1966, or 6 per cent of all manufacturing employees. The import and processing of timber must depend principally on markets provided by the building and civil engineering industries. The extensive building programme required during the next twenty years seems bound to sustain the level of imports through East Anglia ports and to keep the sawmills busy for a long time ahead. Timber is subject to competition from newer materials, but new uses for timber are constantly being found and there is no reason to suppose that the industry will not show a modest growth in the region.

327. There are about 40 domestic furniture companies in East Anglia, and the leading firms have expanded their sales more rapidly than the national average during the last few years. Apart from these and a number of other small, long established firms, the region is experiencing an inflow of furniture companies, principally from the inner London boroughs under the town expansion schemes, and this immigration is expected to continue in the future, particularly by the more dynamic firms; for this reason the furniture companies located in East Anglia should achieve better than average results.

328. The prospects for the furniture industry as a whole depend first on the overall level of economic growth achieved by the country and the proportion of this growth that is channelled into private consumption and, secondly, on the industry's success or failure in maintaining and improving the share of consumers' expenditure allocated to its products. The latter has been falling since 1969, but assuming a 3 per cent growth-rate for GDP (gross domestic product) and a reasonable level of public expenditure, something between a 6 per cent and 12 per cent increase in expenditure on furniture can be expected in the next five years. Other factors affecting demand include marriage trends, the level of new house-building and inward migration to the region. Devaluation will probably raise furniture prices on average and will lead to a switch from the production of furniture with materials of very high import content to alternatives such as plastics. There will also be a tendency to move away from natural woods because of the scarcity of some veneers. The increase in use of plastics in the industry will probably tend to

reduce the demand for direct labour—and there will probably be a trend towards employing a higher proportion of unskilled labour. Foreign trade is not particularly important in the wood furniture industry; the trend of exports is encouraging and should be aided by devaluation. Any rise in output which occurs in the next five years will be achieved by more intensive use of existing plant, by further investment in more specialised plant and in buildings, and by more intensive use of the labour force.

329. *Employment.* For employment purposes the furniture industry is not normally regarded as a growth industry, being subject to fairly large cyclical variations in consumer demand and also because methods which economise in labour are constantly being introduced. The East Anglian furniture industry, however, has some progressive firms which may offer more employment prospects in the future. The furniture and joinery industries should expand in response to the needs of the construction industry. Between 1961 and 1966 total employment grew by 2·6 per cent per annum; between 1966 and 1971 it is forecast to grow at a reduced rate.

Paper, Printing and Publishing (SIC Order No. XV)

330. The industry may be divided into the manufacture of paper, which includes the making of cardboard boxes, containers and stationery; and the printing and publishing side. In employment terms this group ranks as the fourth largest manufacturing industry in East Anglia, employing 15,700 or 6·4 per cent of manufacturing employees in 1966. The printing and publishing industries employed twice as many people as the paper industry, although the latter had shown a relatively greater increase over the last five years, reflecting the modern emphasis on packaging in the marketing of goods.

331. The growth of the paper packaging industry depends on the buoyancy of the economy generally and on the growth in the user sectors, e.g. supermarkets, mail order distribution and consumer durables in general. Import pressure is unlikely to have any serious retarding effect; nearness to customers, speed of delivery and machines to undertake special orders at short notice are more important than price. Increasing output will involve greater use of the existing plant and the extension and modernisation of plant and buildings by the larger manufacturers. In the next five years the labour-intensive packaging industry will probably employ more people, particularly part-time female workers.

332. The newspaper section of the printing and publishing industry is virtually static. Both national and provincial newspapers have been affected by a decline in advertising revenue. Book publishing is doing a flourishing export business, with demand stimulated by increasing prosperity and rising educational standards.

333. Printing is essentially a bespoke business,

and although the industry has managed to hold its own in the domestic market it has not done so in the growing international market. It is thought that East Anglian firms fully appreciate the need for new methods and modernisation and a greater emphasis on marketing. Increased output seems assured, but with the gradual rationalisation of the industry it is unlikely that there will be substantial increases in the labour force.

334. *Employment.* Employment in the paper, printing and publishing industries grew between 1961 and 1966 by 6·5 per cent per annum for males and by 4·6 per cent per annum for females. Between 1966 and 1971 a slow rate of employment growth is forecast.

Remaining Metal-using Manufacturing Industries

Metal Manufacture (SIC Order No. V)

Shipbuilding and Marine Engineering

(SIC Order No. VII)

Metal Goods Not Elsewhere Specified

(SIC Order No. IX)

335. Most of the 3,900 people employed in 1966 in metal manufacture were in foundries producing castings for engineering products, primarily agricultural implements. Most of the foundries are located in or around Ipswich, and the future of the industry is closely tied to agricultural engineering.

336. In the shipbuilding and marine engineering industry practically all the 3,600 people employed in 1966 were engaged in shipbuilding and repairing; about half were employed in the Lowestoft and Great Yarmouth area. As in past years, growth will be almost entirely due to an increasing demand for small boats. Larger craft are built in the Lowestoft area, where capacity has been modernised and the industry competes effectively in the export market. However, the Government's measures to stimulate employment in Development Areas, particularly the Regional Employment Premium, are resulting in increased competition from shipbuilding firms in those areas.

337. *Employment.* The group as a whole has shown a steady growth over recent years, averaging 1·6 per cent per annum between 1961 and 1966. We see no reason to doubt that a slow growth will be maintained by all three components.

Miscellaneous Manufacturing Industries

(SIC Order No. XVI)

338. A variety of manufactures is included in this Order. Those found in the region are rubber goods; brushes and brooms; toys and sports equipment; and plastics.

339. The plastics industry employed 3,200 or 1·7 per cent of the manufacturing employees in the region in 1966. This is a small proportion, but the industry seems to have considerable potential for East Anglia. A wide range of plastic products

is already made, for instance, bottles and containers, toys, bags, tanks and pipes and battery separators. Several firms have established themselves in East Anglia in the '60s, some in conjunction with overspill schemes. The industry has also settled in rural areas.

340. During the past decade the use of plastic has increased rapidly year by year. This trend is expected to continue and will be particularly noticeable in building, packaging, vehicle, agriculture and domestic durable applications. It is estimated that the domestic market could be doubled over the next five years, and perhaps trebled over the next ten.

341. The other industries have maintained a steady but slow growth, and this is expected to continue, particularly in the rubber goods sector which is centred around Huntingdon and is mainly concerned with the production of rubber accessories for the motor vehicle industry.

342. **Employment.** The total of employees rose from 3,500 in 1961 to 6,600 in 1966, representing a growth rate of some 14 per cent per annum, most of which can be attributed to the expansion of the plastic industry. A growth rate of around 5 per cent per annum is forecast.

Construction

(SIC Order No. XVII)

343. The construction industry in East Anglia in 1966 employed an estimated 52,500 persons, representing 3.5 per cent of the total construction force of England and Wales. The estimate covers all employees of contractors, but only the operatives employed in the public sector. The self-employed bring the total to over 55,000.

344. Output on construction in East Anglia during the first quarter of 1967 totalled about £26 million. Table 18 shows how this output is related to the different types of work. This breakdown is broadly in accordance with the national pattern, but the proportion of industrial construction is below the national norm and new private housing is above it.

345. Table 19 shows the value of orders for new construction obtained by contractors registered in East Anglia since 1964, the first year for which separate statistics are available.

346. The productivity of the construction industry in Great Britain has risen, overall production in 1967 being 44 per cent higher than in 1966, whereas the labour force employed by contractors

TABLE 18

Output on construction by type of work in 1st quarter 1967

£ million				
	New housing	New non-housing	Repair and maintenance	All
By contractors	6.18	10.16	4.83	23.13
By local authorities	0.10	0.40	1.90	2.40
By public utilities	—	0.22	0.16	0.38
Total	6.28	10.77	6.89	28.91

Source: Ministry of Public Building and Works.

TABLE 19

Orders for new construction 1964-67

£ million (net at contract prices)												
	1964			1965			1966			1967		
	Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total	Jan.-June	July-Dec.	Total
Housing												
Public	6	7	13	8	9	17	7	9	16	11	8	17
Private	16	14	29	16	16	32	16	11	27	16	11	29
Total housing	21	21	42	24	26	49	23	19	42	29	17	48
Non-housing												
Public	14	13	27	16	9	26	11	16	28	16	13	31
Private industrial	8	8	17	9	9	18	9	8	18	11	11	22
Non-industrial	6	6	12	4	6	8	6	3	9	5	4	9
Total	28	28	56	29	23	52	26	24	50	34	26	62
Grand total	49	49	98	53	48	101	49	43	92	63	43	108

Source: Ministry of Public Building and Works.

TABLE 20

New dwellings built by industrialised methods (as percentage of total by local authorities and New Town Corporations)

	1964	1965	1966	1967 (Jan.-June)
England and Wales	14.4	19.2	26.3	29.7
East Angles	Not available	10.8	12.0	11.6

increased by only 4 per cent. Separate figures for East Angles are not available, but it seems that the region has conformed to the national pattern and productivity in construction has increased significantly.

347. *Building by industrialised methods* is, however, developing more slowly in East Angles than in the country as a whole. The figures for construction of new dwellings by local authorities and New Town Corporations in Table 20 illustrate this.

348. *Employment in construction.* East Angles has a more than proportionate share of the national building labour force. The industry has probably benefited in recent years by taking over unskilled labour displaced from agriculture; it has not had to meet stiff competition for labour from manufacturing industry as occurs in the industrial parts of the country.

349. The Ministry of Public Building and Works census in 1967 showed 2,510 firms registered in East Angles, employing some 35,500 operatives, representing 3.2 per cent and 3.3 per cent respectively of the national totals. The distribution of firms by size conforms in general to the national pattern, as shown in Table 21.

TABLE 21
Distribution of building firms by size

Size of firm by no. of employees	Percentage of total number of firms
N1-1	20.6
2-12	66.6
13-59	16.7
60-114	3.0
Over 115	2.0

350. Operatives employed by registered firms include some 25,500 skilled workers (including about 2,500 indentured apprentices), the remaining 10,000 being mainly unskilled labourers. In recent years there has been a gradual reduction in the numbers of traditional building craftsmen. The increase in semi-skilled work is indicated by the rise in employment on such work as mechanical equipment handling and formwork erecting.

351. The planned expansion in East Angles will

call for a substantial programme of house, industrial, school and hospital building, road construction and other works. Not only will new houses have to be built, but many of the lower standard houses will need improvement and modernisation. East Anglian contractors will be fully employed, particularly on the smaller contracts and the follow-up and maintenance work, although a proportion of the larger projects will no doubt be carried out by 'national contractors', who may import some men temporarily. Even with economies in the use of labour deriving from larger scale working and the use of industrialised techniques it is likely that more labour will be needed, but the industry has already shown that it can expend its employee total quickly when the demand exists.

Bricks (SIC Order No. XIII)

352. On the western borders of the region, centred around Peterborough and extending into neighbouring counties, are the fields of the flinton brick industry where some 3,000 million bricks (about a third of those within the region) a year are produced, more than 45 per cent of the output of bricks of all types in England and Wales. Reserves of clay are thought to be adequate for many years ahead. In addition, there are five small brickworks of purely local significance in the region.

353. *Futures trend in employment in construction and bricks.* Growth of employment in the construction industry has been uneven in the past, rising fairly rapidly (more rapidly than the national total) from 1960 until 1964-65, but after this peak falling (again more sharply than the national total) to 52,600 in 1966. Between 1961 and 1966 the overall employment growth for construction and the brick industry taken together was 3.2 per cent per annum. A comparable growth rate is forecast for the period from 1966 to 1971.

Transport and Communications (SIC Order No. XIX)

354. In East Angles 91 per cent of employment in this group is accounted for by the Post Office (30 per cent), the railways (29 per cent), road haulage (19 per cent) and road passenger transport (12 per cent); the remainder are in air, sea, port and inland water transport.

355. Some railway services and lines have been

closed, and even on the remaining lines the labour force has been reduced. Further economies in labour are likely, even if no more lines are closed. Road passenger transport has also suffered from declining revenues, and this trend, too, is expected to continue; it is therefore clear that neither the railways nor road passenger services are likely to provide growth in future employment.

356. As modern handling techniques and other methods of increasing productivity are being introduced, the numbers employed by road haulage contractors are not expected to increase; but there may be off-setting increases in similar employment in other industry groups.

357. The Post Office is a growth industry making great technological advances and expanding to meet population needs. Modern machinery for mail handling has been installed at Norwich and is shortly to be installed at Cambridge, Ipswich and Peterborough. The 300 telephone exchange in the region are mostly automatic, and all will be by 1970. The number of telephones is expected to double within the next ten years or so, and an intensive development programme is in progress to meet this growth, including the recently opened zone centre at Cambridge to avoid London routings for trunk calls. About 52 per cent of subscribers in East Anglia have Subscriber Trunk Dialling, and almost all will have it by 1971. International subscriber dialling is available to six European countries and it is hoped to extend the facility to a further six countries during 1968. Future extension to East Anglia is planned.

358. Employment. Between 1951 and 1958 growth in the Post Office offset a decline in the level of employment in the transport industries of the group, resulting in an overall growth rate of 0.7 per cent per annum for males employed, whilst for females a growth rate of 4.4 per cent

per annum produced about 1,200 extra jobs. It is thought that the gradual decline in male employment in transport will continue, partly balanced by the anticipated increase in Post Office employment. For females, some reduction of the unusually rapid post growth is expected; this takes account of reductions in demand following automation in the Post Office and increasing competition for female labour from other industries.

Distributive Trades (SIC Order No. XX)

359. When the Study was being prepared the most recent source of information covering the region as a whole was the 1961 census of distribution. Some local authorities have collected more recent local data, but unfortunately their information did not allow comparisons between censuses. The census material leads to conclusions which still seem broadly true.

360. The census covered retail distribution, and thus about three-quarters of all engaged in the distributive trades; 4.6 per cent of the total population were employed either full- or part-time in retail and service establishments. Employment in East Anglia was proportionately well below the national average and below the more densely populated industrial areas. It had one retail establishment to every 105 persons, compared with the national average of one establishment to every 89 persons, as shown in Table 22.

361. Annual turnover in East Anglia was low at £153 per head of population. This was £21 below the Great Britain figure and about £10 below the industrial regions. The low turnover per head commensurate with the low employment income.

362. The turnover in the sub-divisions corresponded exactly to the distribution of population.

TABLE 22
Regional retail trade: employment, establishments and turnover in East Anglia compared with selected regions 1961

Region	Popn. '000	Employed in retailing '000	(3) as % of (2)	Establishments' annual turnover			
				No.	No. of popn. per estab.	Amount £'000	£ per head of popn.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
East Anglia	1,488	88	4.8	14,038	108	224,061	153
East and West Ridings	4,168	204	4.9	82,056	80	883,681	184
North Midlands	3,834	173	4.8	44,012	63	588,134	188
South West	3,408	172	5.0	38,117	106	671,376	186
Wales	2,641	117	4.4	31,688	61	388,372	181
Great Britain	81,280	2,824	5.0	677,307	89	8,816,880	174

In view of the lower employee incomes in certain parts of the region, sub-divisional differences could have been expected. The importance of the four major centres in East Anglia has already been emphasised. Table 23 shows their large absolute share of the retail trade. Some centres appear to be more important in their sub-divisions than others. Cambridge, for example, had half the retail distribution workers in the South West and half the turnover. Ipswich showed a similar position. The North East sub-division is much larger than the others, and Norwich had only 36 per cent of retail employment and 37 per cent of turnover. Peterborough in the North West had 33 per cent of employment and 36 per cent of turnover.

363. Table 24 illustrates significant differences between the four major centres in the distribution of shopping turnover among the various classes of consumer goods. Norwich and Cambridge appeared to provide a more sophisticated shopping trade in 1961. In Peterborough and Ipswich most of the money was spent on basic necessities and the proportions of expenditure on other goods were lower. There will be considerable scope for increase and diversification of retail outlets in Ipswich and Peterborough as a result of their major expansions.

364. *General trends.* Although there is little information about trends in the region there is no reason to think that the development of retail trades would differ from other areas. The trend

towards labour-saving devices and more group buying by independent retailers will continue. Mail order may also increase.

365. The selection of sites for wholesale distribution depots is influenced by a number of factors, including the location of supply factories, customers, population movement and trends, motorway and freight-liner patterns, government investment incentives and labour availability. While East Anglia is a little off centre for nationwide distribution, it does offer advantages of nearness to the London and Midland markets, and its population and industry are increasing. Some demand for East Anglian locations can be expected, at least in the western half.

366. *Employment.* Of 73,000 employees in distributive trades in 1966, 73 per cent were engaged in retail distribution and 16 per cent in wholesale distribution. Of the remainder, a larger proportion than the national average was employed by dealers in grain and agricultural supplies and fewer by dealers in industrial materials and machinery.

367. Between 1961 and 1964 employment in distribution increased, but in 1965 and 1966 it fell back, with the result that over the period 1961-66 there was no net gain at all in employees. A decline of 1.2 per cent per annum for males was offset by a similar overall gain for females. Possible reasons for these trends may be the relatively recent introduction of self-service shops, the tendency for larger units and the competitive

TABLE 23
Shares of major centres in total East Anglian and sub-divisional retail trade

Place	Employment full- and part-time		Establishments		Turnover		Population	
	No. '000	% of East Anglia total	No.	% of East Anglia total	Value £'000	% of East Anglia total	No. '000	% of East Anglia popn.
(1) East Anglia	65.0	—	14,035	100	244,051	100	1,487	100
(2) 4 major centres	26.8	41	4,248	—	87,762	—	384	—
(2) as % of (1)	41	—	30	—	44	—	27	—
<i>Sub-divisions</i>								
(a) North East	25.2	38	5,485	39	83,218	37	538	37
(b) Norwich	9.0	—	1,384	—	31,256	—	120	—
(b) as % of (a)	37	—	26	—	38	—	22	—
(c) North West	12.4	19	2,780	20	41,223	18	283	19
(d) Peterborough	4.2	—	777	—	14,954	—	52	—
(d) as % of (c)	33	—	28	—	36	—	22	—
(e) South East	16.3	23	3,057	22	52,377	23	343	23
(f) Ipswich	7.1	—	1,119	—	25,006	—	117	—
(f) as % of (e)	47	—	37	—	50	—	34	—
(g) South West	13.1	20	2,885	18	47,243	21	301	21
(h) Cambridge	6.6	—	955	—	25,527	—	85	—
(h) as % of (g)	51	—	36	—	54	—	32	—

Source: Census of Distribution 1961.

TABLE 24
Analysis of retail turnover of the four major centres in East Anglia 1961

Town	Total turnover £'000	Food and groceries		Confectionery and tobacco		Clothing		Household goods		Other non-food		General stores	
		£'000	%	£'000	%	£'000	%	£'000	%	£'000	%	£'000	%
Norwich	31,257	10,628	35	1,824	6	6,528	21	4,359	14	3,047	10	4,893	15
Peterborough	14,563	6,810	48	800	5	2,821	20	1,818	12	1,206	8	1,400	9
Ipswich	26,006	11,157	43	1,564	6	4,528	17	3,102	12	1,859	7	3,806	15
Cambridge	25,025	8,918	36	1,432	6	4,263	17	3,602	14	3,310	13	4,103	16
	97,752	37,769	39	5,618	6	18,340	19	12,781	13	8,422	9	14,002	14

Source: Census of Distribution 1961.

demands for labour from other industries.

368. In the future the distributive trades will have to expand their services to meet the needs of a rapidly increasing population, but without a proportionate increase of employees. There will probably be a slow decrease in male employment, but some increase in female labour seems inevitable.

Insurance, Banking and Finance (SIC Order No. XXI)

369. The needs of the region for insurance services will depend upon its population and economic growth as a whole. In general, it is probable that insurance companies will seek to expand their branches in the region to meet current population changes and the spread of new industries. There is likely to be an increasing demand for staff on the sales side, particularly males, but the introduction of mechanisation will diminish the need for male and female office staff at branches as administration is centralised at head offices. The increasing tendency to mergers between companies will produce staff economies, but these will no doubt be offset by increased business.

370. This pattern may be distorted in and around Norwich by the presence of the headquarters of a large insurance group. The demand for clerical staff there, especially females, is likely to persist for some years, although increasing mechanisation may eventually reduce the demand.

371. Banking is likely to follow the same pattern as insurance. The merging of clearing banks and more automatic data processing may reduce demands for staff in relation to volumes of business, but the overall increase in business is likely to maintain recruitment at its present level, with perhaps more emphasis on female staff.

372. *Employment.* Between 1961 and 1966 employment in banking, insurance and finance services in East Anglia showed a rise of 3.6 per cent per annum for males and 6.6 per cent per annum for females; a total of 12,600 people was employed in this group of services in 1966. For the period 1966-71 similar rates of employment growth are forecast.

Professional and Scientific Services (SIC Order No. XXII)

373. Of the 69,000 employees in this group in 1966, 56 per cent worked in educational services, 32 per cent in medical and dental services and 12 per cent in accountancy, law, architecture, surveying and the like.

374. Clearly, the future development of educational and health services will demand further increases in staff in the region. Education, for example, will have to be provided not only for more than 30,000 extra children in the age group 5-15, but also for those who, in increasing numbers, are staying on at school beyond the age of 15. East Anglia must seek in future to make up some leeway, as the proportion of its children staying on is at present well below the national

average. University education will undoubtedly expand, especially at Norwich. Technical and further education facilities, too, will assume increasing importance. We estimate that over 4,000 extra staff will be needed for these purposes. Hospitals in East Anglia will also need expansion or replacement on a larger scale to meet the needs of an expanding population, even when some allowance is made for the rejuvenation of the population structure. At present, the numbers employed in the Health Service as a ratio of the population falls well below the national average, and we hope that this ratio will be appreciably increased in the future, even though the complete elimination of the gap is probably beyond the available manpower resources. On the other hand, replacement of old hospitals by modern buildings should lead to economies in maintenance and cleaning staff, and savings in time spent by professional staff.

375. *Employment.* To cope with the population increase and to make some improvement in the health services, both inside and outside the hospitals, we estimate that nearly 6,500 extra staff will be needed. This increase, together with additional provision in education and the other professional services, can be expected to lead to a steady (but slower than in the past) rise in employment both for males and females. Between 1961 and 1966 the growth rates were 5.2 per cent per annum for males and 3.5 per cent per annum for females.

Gas, Electricity and Water, and Miscellaneous Services

(SIC Order Nos. XVIII and XXIII)

376. This group takes in many services and employed 73,600 people in 1966. Gas, electricity and water services employed a total of 12,000 people, and they are bound to expand both in the numbers of people they serve and in the numbers they employ. There will also be an increase in the people served and the numbers employed by motor repairs, garages and filling stations, in which 16,200 people were engaged in 1966. The region's substantial hotel and catering industry employed some 16,200 people, but does not have the same potential for employment growth, bearing in mind the possible effects of the Selective Employment Tax and the difficulties of obtaining seasonal labour. Private domestic service is also substantial in East Anglia.

377. *Employment.* Between 1961 and 1966 there were growth rates for the two orders one whole of 3.2 per cent per annum for males and 1.6 per cent per annum for females. Between 1966 and 1971 it is forecast that employment for males will rise very slowly, but that the increase in female employment will be sustained.

National and Local Government (SIC Order No. XXIV)

378. In 1966 there were 36,000 employees in this group in the region, of whom 28,000, or

75 per cent, were males. Growth in employment, however, was much more rapid on the female side, and this trend is likely to continue.

379. Growth in local government, which already has 22,000 employees, is expected to continue, especially in the town development schemes. As many of the services provided by local authorities

do not readily lend themselves to automation, or labour-saving techniques, some increase in manual labour is probable. There is more scope for labour-saving through automation on the administrative side, though this may be offset by extension of the range of services provided.

380. National government services in East Anglia

TABLE 25

Summary of male labour demand in East Anglia 1971

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Industry Group	SIC Order	(1) 1966 employment estimate	(2) 1971 forecast of labour demand	(3) Difference 1966-71	(4) Add new industry for expanding towns*	(5) Total demand in 1971
Agriculture, Forestry, Fishing	I	50.0	39.1-40.3	-10.9 to -0.7	—	39.1-40.3
Mining, Quarrying	II	2.3	3.0-3.2	+0.7 to +0.9	—	3.0-3.2
Food, Drink, Tobacco	III	22.4	23.6-24.2	+1.1 to +1.8	0.6-0.6	24.1-25.0
Chemicals and Allied Trades	IV	7.8	7.9-8.1	+0.3 to +0.8	0.6-0.9	8.7-9.0
Metal Manufacture, Shipbuilding, Metal Goods	V VII IX	8.7	8.8-9.1	+0.2 to +0.4	0.8-0.7	9.6-9.8
Engineering, Electrical Goods	VI	40.0	44.4-45.6	+4.4 to +5.6	4.6-6.1	49.2-51.7
Vehicles	VIII	13.7	14.4-14.9	+0.7 to +1.1	0.6-1.2	18.2-18.0
Textiles, Leather, Clothing, Footwear	X XI XII	8.8	8.8-9.0	-0.7 to -0.3	0.1	8.9-9.1
Timber, Furniture	XIV	6.0	6.6-6.9	+0.6 to +0.9	1.1-1.4	9.7-10.3
Paper, Printing, Misc. Manufacture	XV XVI	14.8	16.6-17.0	+2.0 to +2.8	1.7-2.0	19.2-19.0
Bricks, Pottery, Glass, Cement Construction	XIII XVII	67.1	66.0-67.7	-0.9 to +0.6	—	66.0-67.7
Transport and Communications	XX	32.9	31.8-32.7	-1.1 to -0.2	—	31.8-32.7
Distributive Trades	XXI	36.3	34.3-35.4	-2.0 to -0.9	—	34.3-35.4
Insurance, Banking, Finance	XXII	6.7	7.9-8.1	+1.2 to +1.4	—	7.9-8.1
Professional Scientific Service	XXIII	28.0	28.6-29.4	+0.6 to +1.4	—	28.6-29.4
Other Services	XVIII XXIII	36.1	39.7-40.8	+3.6 to +4.7	—	39.7-40.8
National and Local Government	XXIV	28.4	29.6-30.6	+1.4 to +2.4	—	29.6-30.6
Total	I-XXIV	388.2	412.2-420.1 (adjusted†)	+24.0 to +21.9	10.6-13.2	422.7-433.3

*Change in orders XIII to XXIV (Construction and Services) for expanding towns is already allowed for in the 1971 forecast, column (2).

†In compiling the 1971 demand forecast in this Table, it has been assumed that not all the forecasts given as ranges would, at one and the same time, be either at the high or the low level quoted, and that to a certain limited extent high levels in some industries would be offset by low levels in others. The unadjusted range for males would have been 412.2-422.1.

have also tended to increase over recent years, but there have been reductions in civilian employment in defence establishments. There have been one or two welcome developments in the decentralisation of government offices, which will provide future growth of employment in the region. At the same time, the scale of national government services for the local population is bound to increase as the population expands. Growth in male employment between 1961 and 1966 was 2.8 per cent per annum, but is expected to be slower in the future. The very high past rate of employment growth for females, 7.2 per cent per annum between 1961 and 1966, will also slow

down, but will still be higher than the rate for males.

SUPPLY AND DEMAND FOR LABOUR to 1971

361. In paragraphs 265-360 we have given qualitative assessments of the industries in the region. Forecasts of the probable employment for males in 1971 in each of 17 industry groups are given in Table 25, and for females in 12 groups in Table 26. Each forecast is based upon subjective estimates of the future growth rate of employment, bearing in mind the past employment growth rate

TABLE 26
Summary of female labour demand in East Anglia 1971

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Industry Group	SIC Order	(1) 1966 employment estimate	(2) 1971 forecast of labour demand	(3) Difference 1966-71	(4) Add new industry for expanding towns*	(5) Total demand in 1971
Agriculture, Forestry, Fishing, Mining, Quarrying	I II	10.6	10.4-10.7	-0.1 to +0.2	—	10.4-10.7
Food, Drink, Tobacco	III	16.4	17.0-17.6	+0.6 to +1.1	0.6-0.7	17.6-18.2
Chemicals Metal Manufacture Shipbuilding Metal Goods Vehicles	IV V VII IX VIII	6.1	6.3-6.7	+0.2 to +0.6	0.7-0.8	7.0-7.5
Engineering, Electrical Goods	VI	16.6	16.7-19.2	+3.2 to +3.7	1.0-1.3	18.7-20.5
Textiles, Leather, Clothing, Footwear	X XI XII	11.6	10.7-11.0	-1.1 to -0.6	0.3	11.0-11.3
Timber, Furniture, Paper, Printing, Misc. Manufacture Bricks, etc., Construction	XIV XV XVI XIII XVII	12.0	14.0-14.6	+2.0 to +2.6	0.8-1.0	14.8-15.6
Transport Communications	XX	6.2	6.8-7.1	+0.7 to +0.9	—	6.9-7.1
Distributive Trades	XX	36.6	36.6-39.6	+2.0 to +3.2	—	36.6-39.6
Insurance, Banking, Finance	XXI	6.3	7.8-8.1	+2.0 to +2.2	—	7.9-8.1
Professional Scientific Services	XXII	44.4	49.6-50.9	+5.1 to +6.5	—	49.6-50.9
Other Services	XVIII XXIII	36.4	38.3-39.5	+2.9 to +4.1	—	39.3-39.5
National and Local Government	XXIV	9.6	11.7-12.1	+2.1 to +2.6	—	11.7-12.1
Total	I-XXIV	210.4	231.2-236.2 (adjusted†)	+20.8 to +26.6	3.4-4.1	234.6-240.3

*Change in orders XIX to XXIV (Construction and Services) for expanded towns is already allowed for in the 1971 forecast, column (2).

†In compiling the total 1971 demand forecast in this Table, it has been assumed that not all the forecasts given as ranges would, at one and the same time, be either at the high or the low level quoted, and that to a certain limited extent high levels in some industries would be offset by low levels in others. The unadjusted range for females would have been 235.2-237.4.

and taking into account:

- a the future prospects of component industries in the group;
- b possible future changes in the structure of the group;
- c effects of automation and productivity changes;
- d if appropriate, effects of competition from other industries for labour;
- e for service industries only, demands from an increased population.

The forecasts have been given in each case as ranges of probability, because they are approximate and liable to error. They are of employees in employment, i.e. they exclude the unemployed.

382. The totals (columns (1) and (2)) show an increase of demand for males from 388,000 in 1966 to 412,000-420,000 in 1971; for women an increase in demand from 210,000 to 231,000-238,000. These forecasts represent our assessment of the growth potential of East Anglian industry as at 1966; no account has been taken of the new manufacturing firms which have already entered the region since 1968 or other firms which will do so before 1971.

383. In paragraphs 258-284 forecasts are made of future labour supply in the region. These indicate a probable increase in males available for employment from 403,000 in 1968 to 410,000-418,000 in 1971; the corresponding increase in the female labour forecast is from 211,000 in 1968 to 218,000-228,000 in 1971.

384. Given the possible margin of error in both sets of forecasts, it is not easy to draw any clear-cut conclusions. Nevertheless, the main points which emerge are:

- a The estimates suggest that, over the region as a whole, the expected increase in the numbers of men seeking employment will probably be roughly in line with the rate at which new job opportunities are likely to be forthcoming. This would imply, for the region as a whole, no great change in the average pressure of demand for male labour.

- b For women, the employment prospects seem rather different. Our information suggests that the expansion in job opportunities for women may well be rather faster than the increase in the number of women seeking work. Given our present assumptions about activity rates, this would mean some shortage of women workers.

385. Within the general regional pattern there are likely to be marked divergences in the pattern of supply or demand for labour in different parts of the region. It seems probable that the shortage of jobs in areas such as north Norfolk will continue, whilst in parts of the South West sub-division labour shortages may increase. At the same time, people looking for work may not have the skills required by employers looking for labour. Finally, there are the town expansion schemes, where the number of workpeople expected to move in is so large in comparison with existing local industry that the latter could not possibly meet the total job requirement.

Labour Supply and Demand in Town Expansion Schemes up to 1971

386. We have tried to estimate the number of male jobs which will be needed for the eight main town expansion schemes in the region which will be under way in the period to 1971: King's Lynn, Thetford, Huntingdon, Bury St. Edmunds, Mildenhall, Haverhill, Sudbury and St. Neots. Details of the calculations made for the eight towns concerned are given in Tables 27, 28 and 29. Although the region as a whole would have adequate labour demand to employ the migrants expected, these Tables show that there will not be sufficient indigenous demand in the present town expansion schemes. To enable them to meet their targets we have estimated that some 10,000-13,000 male jobs will have to be brought in.

387. It remains to be considered whether these jobs can to some extent be moved from other parts of the region. This is a strategy point discussed in

TABLE 27
Estimation of male jobs required for expanded towns 1966-71
Male population growth—15 years and over*

Age group	Number of persons '000				Percentage of persons			
	1966	1971 static projection	1966-71 migration affect	1971 total	1966	1971 projection	1971 migration	1971 total
15-19	10.1	11.2	0.8	12.0	10.3	11.0	7.6	10.7
20-44	45.0	46.0	7.8	64.1	45.6	46.9	72.0	44.3
45-64	29.4	30.8	1.6	32.3	29.9	30.0	16.8	28.6
65+	12.6	13.3	0.4	13.7	13.0	21.1	3.9	12.2
Total	98.3	101.6	10.6	112.0	100.0	109.0	100.0	100.0

*Rounds are rounded and may not add to totals

TABLE 28
Male labour supply forecasts

	1966	1971 projection	Migration effect 1966-71	1971 total
Population aged 15+	98.3	101.6	10.8	112.0
Activity rate*	88.7	82.7 — 84.2	86.3 — 88.1	85.0 — 86.3
Supply forecast (employable)	87.7	83.6 — 85.2	9.1 — 9.2	72.8 — 74.3†

*These activity rates (see Glossary) are based on Department of Employment and Productivity (DEP) data. The forecast future rates are calculated by method 2 of the methods described in Appendix 12, having regard to the age structure shown in Table 27. Neither the forecast future rates nor the 1966 rates shown are strictly comparable with other published DEP activity rates (including the unemployed) (estimated at 1,100).

TABLE 29
Male labour demand forecast of existing industry

	1966	1971	Absolute increase	Average annual growth rate %
Extractives	9.7	7.8 — 8.0	-1.7 to -1.9	-3.8 to -4.2
Manufacturing	19.2	20.7 — 21.1	+1.5 to +1.9	+1.8 to +1.9
Construction	8.8	11.0 — 11.2	+2.2 to +2.4	+4.6 to +4.9
Services	19.3	20.5 — 20.9	+1.2 to +1.6	+1.2 to +1.6
Total	57.0	60.0 — 61.2	+3.0 to +4.2	+1.0 to +1.4

Part I, but the following facts are relevant:

- a much of the growth potential existing in Ipswich and Peterborough will be needed, in due course, for the New Town schemes;
- b much of the growth potential existing in the Cambridge area would produce female rather than male jobs. Also, many of the firms concerned would claim to have strong ties to the Cambridge area.

388. *Conclusions.* We conclude that the region will need a modest injection of new manufacturing male-employing industry between 1966 and 1971 to sustain the town expansion schemes. Some

small additional employment will also be needed to solve unemployment problems in some rural areas of the region, and this may not all be found from within the region.

389. It should also be remembered that experience gained so far in New Towns and expanding towns shows that it is not possible to obtain any quantity of industry which is purely male-employing; if the proportion of males is about three-quarters, this is the best that can be hoped for. Therefore, in creating 10,000-13,000 male jobs in the expanding towns it is inevitable that some 3,000-4,000 female jobs will also accrue.

4 Amenities for Leisure, Tourism and the Holiday Trade

A BROAD REVIEW OF THE AMENITIES

390. East Anglia has a distinctive combination of advantages for leisure and tourism: a dry and breezy climate, a long coastline with extensive beaches, many inland waterways, a quiet rural scene and a variety of historical and architectural treasures.

The coast

391. Much of the 150-mile long coastline is unspoilt and there are many good beaches. Generally there is ready access, though in some areas, particularly Norfolk, parts of the coastline are privately owned and the areas of salt marshes and small creeks also preclude normal seaside use. There are a number of attractive family resorts, but the considerable chalet and caravan developments present important planning problems for the local authorities.

Inland water areas

392. The 120-mile navigable waterways of the Broads are one of the most important holiday regions in Britain, offering facilities for all kinds of boating, angling and ornithology. The Broads holiday industry is a major contributor to the local economy. In 1966, following the recommendations of a report by the Nature Conservancy*, the Broads Consortium of Planning, River and Navigation Authorities was set up and is now undertaking a two-year study and plan.

393. The region is well endowed with other rivers and estuaries, of which the most important is the 200 miles of navigable water in the Great Ouse complex, it offers great scope for the provision of further leisure amenities, and the popularity of the 1,500-acre Grafton Water Reservoir in the Diddington Valley illustrates the demand for scenic and recreational facilities in this area.

Countryside

394. The region does not have any National Parks, but the Nature Conservancy has 23 established and

proposed National Nature Reserves, and large tracts of the region have been proposed for designation as Areas of Outstanding Natural Beauty, or are considered by the local planning authorities to be of great landscape value.

395. The 240 square miles of the Breckland are an extensive area of sandy heaths and forestry increasingly used for recreation. In Thetford Chase, the Forestry Commission provides sign-posted walks, car parks, commercial camping and caravan sites, and other facilities, and these forests offer a good example of the way in which an amenity area can be developed for immediate enjoyment.

396. Apart from the Breckland the amount of open land in the region to which the public have unrestricted access is severely limited because of the danger of damage to agriculture. The White Paper on leisure† drew attention to this conflict of interests, and we agree with its conclusion that the best approach is to increase the areas open to the public but to define their limits clearly.

397. The Countryside Act offers the chance for a considerable change in the planning and financing of leisure facilities in the countryside, with the establishment of a Countryside Commission in place of the National Parks Commission and the prospect of 75 per cent grants towards the cost of provision or development of facilities such as new country parks, picnic areas, camping sites and wardening schemes. The Act also amends earlier legislation on footpaths and bridleways. It is clearly necessary to ensure that a reasonable system of paths is maintained throughout the region, although this may imply alterations to the existing pattern through the complex reconciliation of the interests of agriculture and the public.

Towns and villages

398. One of East Anglia's greatest attractions is the outstanding architectural and historic quality of its towns and villages. The assets are too numerous to list here, but we must mention the cathedrals of Peterborough, Ely, Norwich and

*Report on Broads, The Nature Conservancy, 1966.

†Leisure in the Countryside, Cmd. 3026, H.M.S.O. 1969.

Bury St. Edmunds, the great churches of Lavenham and Long Melford, the Shrine of Walsingham, the Castle of Norwich and the large country houses. Most important of all is the City of Cambridge. As well as individual buildings, the region has a heritage of picturesque villages and domestic street architecture such as that at King's Lynn, and the Council naturally welcomes the new powers in the 1967 Civic Amenities Act for the preservation of areas of architectural or historic interest as distinct from individual buildings.

THE HOLIDAY TRADE

399. East Anglia can provide traditional seaside holidays ranging from the popular amusements of Great Yarmouth to the quiet charm of Southwold. Holiday requirements are changing, and the region is adapting to cater for those who prefer touring holidays, camps, chalets, caravans or water-borne holidays. The demand for holidays in East Anglia is widely spread, but comes mainly from London, the Midlands and Yorkshire.

Holiday-makers and their expenditure

400. The main source of information about the holiday trade in East Anglia is the British Travel Association (BTA) Annual Surveys which used to be based on the BTA East Region*, but which now also show the distribution of holidays by economic planning regions.

401. The 1967 survey indicates that about 10 per cent of British holidays† are taken in the BTA East Region. This represents about three million holiday-makers in 1967, compared with around two million in 1961, and seven out of ten of these holidays were spent in East Anglia. Average expenditure per person on main holidays in the region is £17, compared with the national average of £19, but the average length of holiday is also slightly lower.

The holiday areas

402. There is considerable variety in the types of holiday accommodation and facilities offered on the coast. The major resort is Great Yarmouth, with its concentration of hotels, caravan and camping sites. Smaller resorts such as Hunstanton, Cromer, Lowestoft and Felixstowe also provide a wide range of accommodation, but do not have such extensive amusement facilities. The coastline between Cromer and Yarmouth has a number of small villages which are used for holiday purposes, e.g. Bacton, Hemsby and Caister. This stretch of coastline and that further south towards Lowestoft and beyond have provided sites for a number of holiday camps. Southwold and Aldeburgh on the Suffolk coast are resorts of a quieter type. The

major Broadland centres are congested and the annual number of holiday visitors to Broadland continues to increase and is now probably over a quarter-million extending over 24 weeks, with some holiday activities continuing throughout the year. In addition to the holiday element, there is the use of its recreational facilities by people living within easy reach.

The supply of holiday accommodation

403. Approximately seven out of ten British holidays are still spent at the seaside, although the accommodation pattern is changing. In coastal areas of Norfolk, for example, caravans account for 60 per cent of the holiday accommodation. This trend towards the more informal type of accommodation is underlined by the British Travel Association's analysis of the demand for various types of accommodation in East Anglia. This indicates that in the country as a whole 38 per cent of its holiday-makers are accommodated in hotels, compared with 28 per cent in East Anglia. Twenty-six per cent of holidays in East Anglia are spent in caravans, compared with 15 per cent nationally. The Broads, together with the Fenland rivers, give this region the highest proportion (8 per cent) of holidays spent on boats.

The holiday season

404. One of the economic problems of the industry is to find ways of evening out the spread of holiday-makers to improve the utilisation of capacity. The Broads are used intensively, often for six months, but caravan sites are only fully used during school holidays, and camping sites for about five weeks at the peak of the season. Holiday camps usually stay open from early June to September. They are adapting to the developing practice of second holidays by extending their range of activities.

The holiday industry labour force

405. The distribution of the holiday industry within East Anglia weights its economic importance in certain localities, where it provides direct employment for a substantial proportion of the population and markets for local agricultural produce. Because of the spending power of the visitors, local service industries are well developed to cope with summer demands. In Broadland, in particular, the economy of many of the small market towns is based largely on the holiday industry.

406. The industry recruits seasonal labour from a number of sources both from within and from outside the region. The attractions of this lucrative temporary work sometimes cause shortages of labour in other local industries.

Future trends

407. The proportion of the adult population in Britain taking a holiday away from home stabilised

* i.e. East Anglia Economic Planning Region plus Hertfordshire, Bedfordshire and Essex, excluding Peterborough.

† Periods of four nights or more

at about 60 per cent during the 1960s and is unlikely to grow significantly in the next few years. Of these people, only one-seventh go abroad. In the longer term, population growth will naturally increase the size of the holiday market.

408. The future of the domestic holiday trade will depend to a large extent on more second holidays, which in turn will depend on the level of economic prosperity and scope for leisure. East Anglia is one of the most popular areas for weekend cottages and this demand is raising property values.

409. At present the number of overseas visitors staying in the region is small. However the volume nationally is growing every year, and will reach about six million in 1970. East Anglia should benefit from this.

410. Within East Anglia, demand for boat accommodation on the Broads and for caravan sites on the coast is likely to grow. In Broadland this raises considerable physical planning problems as to how demand can be satisfied without damaging the character of the area. A similar problem arises with caravan sites; the *Report on the Norfolk Holiday Industry** suggests that 'If holiday-makers come to associate Norfolk principally with caravans, the County's holiday industry as a whole may suffer'.

411. The future of the holiday industry in East Anglia cannot be considered apart from the more general field of leisure and recreation, where demand is likely to grow at a very fast rate, both

from inhabitants of the area and from residents of urban centres within reasonable travelling distance.

SPORTS

412. Regional sports councils have been formally established throughout the country, with responsibility for surveying existing facilities for sport and recreation, ascertaining the extent of their use, estimating deficiencies and preparing plans for present and future needs. In the Eastern Sports Council area†, the technical panel, comprising mainly local authority planning officers, has completed its initial appraisal of the quality and distribution of main facilities which will provide a basis for further investigation and co-operative planning. We maintain liaison with the Eastern Sports Council and we assume that it will be consulting with the new Countryside Commission about complementary interests, such as recreation and sports provision on waterways and in new country parks.

413. The present restrictions on public expenditure accentuate the need for gaining as much return as possible from costly sports facilities, such as swimming pools, running tracks, sports fields and gymnasia, and we are confident that the Sports Council and the associated authorities and organisations will continue to pay attention to the sharing of facilities. This issue is particularly important in many rural areas.

*East Anglia Economic Planning Region plus Bedfordshire, Hertfordshire and Essex.

†Norfolk County Council, 1964.

5 Incomes and Expenditure

414. One of the basic aims of regional economic planning is to reduce the economic differentials that at present exist among regions in this country. Two available economic indicators of regional prosperity are personal incomes and household expenditure, and we have examined how the pattern of incomes and expenditure in East Anglia differs from that in the rest of the country. Information on incomes is also available on a county basis, which allows some intra-regional comparison.

Regional incomes

415. Table 30 shows regional differences in average tax case incomes for 1965-66 and indicates that East Anglian earned incomes fall some way below the United Kingdom average. East Anglia has the lowest average earned income from employment of all the English regions, lower than Wales, only slightly above that of Scotland but some way above that of Northern Ireland. Income from self-employment is also low. Investment income, on the other hand, is relatively high and this pushes up the average total net income for the region.

416. For the majority of people the important component of personal income is earned income from employment. Table 31 compares the distribution of earned incomes from employment by region. This shows that there are important differences within the income range £600-£2,000. Below and above these levels East Anglia and Great Britain have a broadly similar proportion of incomes—23 per cent below £600 and 4-5 per cent above £2,000. But between £600 and £2,000, a substantially higher proportion of incomes in East Anglia lies in the lower part of the range than in Great Britain as a whole: in Great Britain 40 per cent are between £600 and £1,100 and 31 per cent between £1,100 and £2,000; in East Anglia the corresponding figures are 49 per cent and 23 per cent.

417. Additional information on earned income from employment (excluding self-employed) has become available from the graduated pension scheme of the Ministry of Social Security. Data are set out in Table 32, and they corroborate the find-

ings made from the Inland Revenue data in Table 30. Male earnings in East Anglia were the lowest of all the English regions and Wales, but above Scotland. Female earnings in East Anglia were the lowest (equal with Northern Region) of all the English regions, Wales and Scotland.

Incomes within East Anglia

418. Table 33 illustrates the levels of incomes for the counties in the region.

419. As far as total net income and earned income from employment and self-employment are concerned, the Norfolk average is significantly below that of the other counties. Only in Huntingdon and Peterborough is earned income from employment above the United Kingdom average. Table 34 giving Ministry of Social Security data confirms that average earnings in Norfolk are well below those elsewhere in the region, with a much wider disparity for males than for females.

Industrial earnings in East Anglia

420. Statistics have recently become available giving, for the first time for East Anglia, details of male earnings in certain industries. For agricultural earnings, the results of the annual Wages and Employment Enquiry have included, in 1965-67, estimates of earnings and hours for planning regions. Although the conclusions must be regarded as provisional until results for subsequent years become available, the preliminary analysis in Table 35 suggests that earnings and hours worked in agriculture in East Anglia are below the England and Wales average, and are generally below other regions. The difference between earnings in East Anglian agriculture and the national average is of the order of 18s.-19s. per week; about three-fifths of this difference can be explained in terms of a shorter working week; the remaining two-fifths is due to other factors.

421. The earnings figures in Table 35 take account of payments in kind, though no separate regional statistics are available. The national average weekly value of all payments in kind (both allowable items such as cottages, board and lodging, and milk, valued by the Agricultural Wages Board, together with non-allowable items such as

TABLE 30

Types of personal income (before tax) 1965-66*

New Standard Regions	Total net income		Earned income from self-employment (Schedule D)		Earned income from employment (Schedule E)		Net investment income	
	1965-66 average income per case £	Ranking	1965-66 average income per case £	Ranking	1965-66 average income per case £	Ranking	1965-66 average income per case £	Ranking
United Kingdom	1,070.6	—	1,033.6	—	922.7	—	444.7	—
Northern	969.6	10	1,015.6	6	969.6	7	305.7	11
Yorkshire and Humberside	1,013.2	7	1,042.5	4	960.7	9	326.9	6
East Midlands	1,052.6	3	1,039.7	5	936.7	3	352.6	7
East Anglia	1,029.3	6	1,012.3	7	851.7	9	424.0	4
South East	1,184.0	1	1,135.9	1	967.5	1	693.5	1
South West	1,033.6	4	945.5	9	650.0	6	611.4	2
Wales	920.9	9	875.6	10	664.5	8	301.1	10
West Midlands	1,089.3	2	1,039.1	2	850.1	2	380.3	5
North West	1,032.6	5	957.6	8	867.5	4	329.1	9
Scotland	1,000.0	8	1,072.4	3	836.1	10	435.5	3
Northern Ireland	650.2	11	746.5	11	776.3	11	356.0	8

* These data were obtained from the Inland Revenue surveys. Regional income data have certain characteristics which should be noted:

- Income data are assessed by areas of work.
- Figures cover persons with total income above tax exemption limit (£278 in 1966-68).
- A married couple is counted as one person or case.
- Members of HM Forces and the Merchant Navy are omitted as these groups are assessed separately for tax purposes. For the first time in 1965-66 Inland Revenue allocated Public Departments (civilian) to their region of residence as far as was possible.
- Each person (i.e. tax case) appears once in each class in which he has income, and total number of cases exceeds total number of income bearers of persons found in more than one class.
- The Schedule D, Schedule E and net investment income are the three main components of total net income. Other components are pensions and family allowances.
- In this and other Tables 'average' income is the arithmetic mean.

Source: Comptrollers of Inland Revenue, 115th Report, 1966.

fuel, lighting and vegetables valued by agreement between employer and worker) was in the year ended September 1966, 6s. 11d. for hired regular workers—2.4 per cent of weekly earnings*. This is of course a nominal value and it is possible that the cash value exceeds this. The Prices and Incomes Board in its examination of the pay of agricultural workers recently looked at this point and concluded†:

The evidence therefore suggests that some agricultural workers but not all, enjoy a non-monetary advantage over and above the average figure of 6s. 11d. included in earnings figures as the value of payments in kind. We cannot put a precise figure upon this advantage but we conclude that the average value is relatively small, certainly insufficient to require any serious modification to the conclusion reached on the basis of figures of earnings.

422. Tables 36 and 37 confirm that incomes in most industries are comparatively low in East Anglia and that, despite longer hours than elsewhere, male manufacturing earnings as a whole are lower than in all the regions except Northern Ireland.

Reasons for low incomes in East Anglia

423. Table 37 shows industries ranked in order of UK hourly earnings. This shows that there was important difference between East Anglia and the UK in terms of hourly earnings, hours worked and industrial structure. An analysis has been made which isolates the relative effect of these components‡.

424. Average weekly earnings for men in East Anglia were some 9 per cent less than for the

* *Wages and Employment Enquiry 1966*, Ministry of Agriculture (National Board for Prices and Incomes, *Pay of Workers in Agriculture in England and Wales*, Report No. 26, Cmd. 3768, HMSO 1967).

† This work was done for the Planning Council by the Department of Applied Economics, Cambridge, using Siegel's formula for the decomposition of a Product Into Three or More Components. See The generalised 'Vital' Index number formula, Irving Siegel, *Journal of the American Statistical Association*, Vol. 63, 1968.

TABLE 31

Frequency distribution of employment incomes 1965-66*

Income range £	Great Britain	North	Yorkshire and Humberside	East Midlands	East Anglia	South East	South West	Wales	West Midlands	North West	Scotland
276-299	1-4	1-9	1-7	1-6	0-6	1-1	1-5	1-4	1-3	1-6	2-1
300-399	6-9	7-7	8-1	7-9	7-8	6-8	7-8	8-3	6-8	7-0	6-2
400-499	7-8	8-0	8-4	7-8	7-2	7-0	7-0	7-7	6-4	7-7	8-1
500-599	7-5	7-6	7-5	7-6	7-7	7-1	7-9	6-6	7-4	7-2	8-0
600-699	7-4	7-5	7-1	6-4	9-1	7-3	8-1	7-2	6-7	7-8	9-1
700-799	8-1	8-7	8-7	7-8	11-2	7-3	10-6	8-3	7-1	7-7	8-0
800-899	8-6	8-1	8-8	8-4	9-9	7-7	10-8	11-3	7-8	8-6	8-3
900-999	8-3	8-3	8-8	8-0	9-6	8-0	8-8	8-9	9-2	8-4	7-2
1,000-1,099	7-8	8-6	7-7	8-5	9-1	7-8	7-2	8-2	7-5	7-4	6-3
1,100-1,199	7-1	6-3	7-9	7-1	4-0	7-3	7-2	8-0	7-2	7-1	6-2
1,200-1,299	8-9	6-4	8-1	6-4	6-0	6-9	6-0	6-6	7-0	8-2	5-4
1,300-1,399	6-0	4-9	5-0	5-7	4-2	4-8	5-3	3-9	6-0	5-1	4-6
1,400-1,499	3-6	2-6	3-9	4-8	2-5	4-0	2-5	3-7	5-6	4-1	2-5
1,500-1,599	8-3	5-2	5-8	6-8	4-2	7-4	4-4	5-1	7-1	6-4	4-7
1,600-1,699	3-2	2-3	2-1	3-2	2-4	4-1	1-8	2-7	3-7	3-0	2-7
1,700-1,799	2-2	1-4	1-5	1-5	1-9	3-1	1-9	1-4	1-7	1-9	1-6
2,000-2,499	0-9	0-7	0-5	0-5	0-7	1-3	0-8	0-6	0-7	0-6	0-8
2,500-2,999	1-9	1-3	1-6	1-5	1-8	2-7	1-6	1-1	1-7	1-6	1-2
3,000 and above											
	160	100	100	100	160	100	100	100	100	100	100
Total number of cases	18,674,510	968,980	1,670,200	1,071,710	448,400	6,403,160	1,068,700	786,030	1,851,690	2,262,390	1,570,430
Median case, £	931	883	886	949	866	904	889	834	880	925	842
Lower quartile, £	621	597	590	621	630	654	614	616	651	617	562
Upper quartile, £	1,273	1,196	1,206	1,320	1,172	1,352	1,170	1,190	1,324	1,267	1,176
Quartile deviation, £	326	300	308	350	276	340	282	287	337	326	307

*Data relate to annual income from employment. (Calculates £ wages and salaries aggregated.)

Source: Commissioners of Inland Revenue 1966 Report, 1966.

TABLE 32
Average gross earnings in civil employment*

New Standard Regions	Average Earnings 1955-56	
	Male 15-64	Female 15-59
Great Britain	1,065	845
Northern	980	805
Yorkshire and Humberside	1,005	811
East Midlands	1,019	813
East Angles	979	809
South East	1,175	924
South West	985	820
Wales	939	836
West Midlands	1,086	813
North West	1,033	821
Scotland	964	824

*1. Data relate to persons with at least one contribution actually paid and at least 48 contributions paid or credited: Class 1 (employed person) contributions in the relevant insurance contribution year terminating on the first Monday in March.

2. The earnings data from Ministry of Social Security are of a different source from those of Inland Revenue (Table 30):

a. Data relate to areas of residence, not place of work.

b. Data give information for individuals rather than sex units.

c. Data are not restricted to an exemplified index (Table 32, note b.)

Source: Ministry of Social Security.

TABLE 33
Levels of income in East Anglian counties 1964-65

Area	Total average net income per case	Average earned income from self-employment (Schedule D) per case	Average earned income from employment (Schedule E) per case	Average (net investment income) per case
Cambridgeshire and Isle of Ely	905	856	830	404
Huntingdon and Peterborough	893	880	833	272
Norfolk	913	839	793	364
East and West Suffolk	896	981	794	490
East Angles	900	861	796	391
United Kingdom	1,003	972	860	393

Source: Commissioners of Inland Revenue, 115th Report, 1966. (See Notes to Table 30.) 1965-66 data for counties are not yet available.

country as a whole. If East Anglians had worked no longer than the national average number of hours this difference would have been 10 per cent. The analysis showed that the greater part of the difference could be accounted for by hourly wage rates which, in East Angles, were on average about 7 per cent below the national level. The industrial structure weighted in the direction of low earnings (in particular agriculture) accounts for the remain-

ing 3 per cent. In other words the unfavourable industrial structure accounts for at most only one-third of the total difference.

425. This analysis is not quite complete since it does not include workers in the distributive trades, insurance, banking and finance, and professional and scientific services; nor does it include persons not classified by industry. As a result, the percentages of male employees in employment are not

TABLE 34**Average gross earnings in civil employment in East Anglia***

Area	Average Earnings 1955-56	
	Males 18 — 65	Females 18 — 64
East Anglia	974	509
Cambridgeshire and Isle of Ely	989	513
Huntingdon	1,124	542
Soke of Peterborough	1,236	544
Norfolk	908	500
East and West Suffolk	970	502

*Note: the age groupings are 15-60 men and 15-65 women; the data did not allow county figures to be calculated on the 15-64 and 15-65 basis used in Table 32, the differences resulting from this are very small.

Source: Ministry of Social Security—see Notes to Table 32.

TABLE 35**Earnings and hours of whole-time male agricultural workers**

New Standard Regions	For year ending 30th September 1957	
	Average weekly earnings shillings	Average weekly hours
Northern	282.7	47.6
Yorkshire and Humberside	298.6	48.7
East Midlands	314.7	50.7
East Anglia	280.6	47.8
South East	306.2	48.3
South West	330.3	49.6
Wales	287.1	48.1
West Midlands	284.8	48.8
North West	317.3	51.8
England and Wales	289.2	48.4

Source: Ministry of Agriculture, Wages and Employment Enquiry 1956-57.

quite the same in East Anglia and the country as a whole; they are 83.5 and 82.3 respectively, though this would not significantly effect the above conclusions.

Recent changes in incomes

426. Although the level of incomes in the region is low compared with the national average, this gap has been narrowing. The rate of increase in personal incomes between 1959-60 and 1964-65 for all the East Anglian counties was greater than that for the country as a whole, as can be seen from Table 38.

Expenditure

427. East Anglians clearly receive significantly

less money income than the UK average. This does not necessarily mean that they are worse off, as prices in East Anglia may be lower. Unfortunately there is as yet no regional price index. However, some information can be deduced from the Family Expenditure Survey, see Table 39.

428. Table 39 indicates that East Anglians spend similar amounts on food, transport, clothing and miscellaneous goods, but spend less on housing, drink, tobacco, durable household goods and services. Of this latter group, apart from housing and some services, there are unlikely to be any significant regional differences in prices. It seems probable therefore that the difference in money incomes also reflects a lower level of real consumption in East Anglia.

TABLE 36

Average weekly hours and earnings in manufacturing* and all industries†—males 21 and over (manual workers)

New Standard Regions	Average weekly earnings shillings and pence		Average weekly hours		Average hourly earnings pence	
	Manuf. Inds.	All Inds.	Manuf. Inds.	All Inds.	Manuf. Inds.	All Inds.
United Kingdom	437.7	427.6	45.3	46.2	116.0	111.0
Northern	420.3	413.1	44.9	45.7	113.9	108.4
Yorkshire and Humberside	406.8	400.1	45.9	46.3	105.3	104.7
East Midlands	424.6	417.1	45.3	46.3	112.6	106.0
East Anglia	389.7	383.6	46.0	46.7	104.3	101.1
South East	459.3	444.3	45.6	45.6	120.3	114.4
South West	422.0	387.3	45.6	45.9	111.1	100.8
Wales	446.8	422.6	44.1	45.2	121.3	112.3
West Midlands	455.4	444.4	43.6	44.6	125.4	119.6
North West	425.0	420.6	46.0	45.4	111.7	106.6
Scotland	424.6	416.4	46.6	46.2	111.7	106.0
Northern Ireland	363.3	367.4	46.0	45.6	102.2	85.7

*Manufacturing industries include industries listed in Table 31, with the exception of mining and quarrying, construction, gas, electricity and water, transport and communications, public administration, miscellaneous services and agriculture.

†All industries include all industries listed in Table 31, with the exception of agriculture.

Source: OEP October 1967 Survey of Hours and Earnings.

TABLE 37

Main industrial groups: earnings, hours worked, employment—males 21 and over (manual workers)

Industrial group	Hourly earnings			Weekly earnings			Hours worked			Employment: associates males		
	UK	East Anglia	East Anglia relative to UK	UK	East Anglia	East Anglia relative to UK	UK	East Anglia	East Anglia relative to UK	UK	East Anglia	%
	Pence	Pence	%	Shillings	Shillings	%	Hours	Hours	%	%	%	%
1. Vehicles	135-0	110-7	82	408-4	408-2	84	43-4	44-2	102	5-0	5-0	3-5
2. Paper, Printing, Publishing	129-7	119-8	92	405-2	440-5	91	45-8	45-0	98	2-3	2-3	2-8
3. Metal Manufacture	119-6	107-0	90	447-7	420-7	94	44-9	47-2	105	3-6	3-6	0-8
4. Chemical and Allied	117-8	108-4	92	444-6	417-1	94	45-4	46-2	102	2-5	2-5	2-0
5. Ship, Marine Engineering	115-7	104-8	91	437-7	380-5	87	45-4	43-6	96	1-4	1-4	0-8
6. Other Manufacturing	114-2	98-6	88	437-0	303-3	88	45-9	46-8	102	1-4	1-4	1-0
7. Engineering and Electrical	114-1	101-2	89	427-7	387-1	91	45-0	46-9	102	11-4	11-4	10-1
8. Metal n.e.s.	112-1	104-9	94	421-4	403-8	96	46-1	46-2	102	2-4	2-4	0-5
9. Bricks, Pottery, Glass	109-7	111-8	102	430-7	448-8	102	46-0	48-3	101	1-8	1-8	1-8
10. Gas, Water, Electricity	108-2	111-6	102	387-7	398-9	100	43-7	42-6	98	2-6	2-6	2-8
11. Timber, Furniture	98-5	91-6	92	416-2	383-3	92	45-9	46-3	101	1-0	1-0	2-0
12. Construction	100-7	96-7	89	433-0	383-7	89	48-3	48-1	100	10-9	10-9	12-8
13. Clothing, Footwear	104-1	97-7	93	375-2	348-6	93	41-6	40-2	96	1-0	1-0	1-0
14. Food, Drink, Tobacco	105-3	97-1	92	418-8	368-4	88	47-5	48-1	101	3-3	3-3	5-5
15. Transport and Communications	104-0	103-8	100	433-2	445-3	102	50-0	51-4	102	9-2	9-2	8-3
16. Textiles	103-2	106-4	103	379-4	379-4	97	45-5	42-6	93	0-5	0-5	*
17. Leather	100-4	96-2	96	374-2	336-8	90	44-7	42-0	94	0-2	0-2	*
18. Mining and Quarrying	100-2	96-1	96	425-1	355-1	84	50-8	44-3	88	3-7	3-7	0-5
19. Miscellaneous Services†	98-6	87-7	89	335-2	310-7	93	43-7	42-6	97	8-6	8-6	7-1
20. Public Administration	92-1	87-7	95	335-2	310-7	93	43-7	42-6	97	5-7	5-7	7-1
21. Agriculture‡	71-4	70-9	99	291-0	280-5	96	48-9	47-5	97	2-7	2-7	12-8

*The standard returned was too small to provide a satisfactory basis for an average to be calculated.

†Leisure and dry cleaning, motor repairs and garages, and repair of boats and aircraft.

‡There are no UK figures of hours and earnings for agriculture. A comparison has been made, however, between East Anglia and Great Britain. The East Anglia figures relate to the year ended September 1967, and the Great Britain figures to the year ended March 1967.

Source: DSEP October 1967 Survey of Hours and Earnings, except for agriculture, where data are from Wages and Employment Inquiry 1968, Ministry of Agriculture, Fisheries and Food.

TABLE 38

Rate of growth of incomes* from employment
1959-60 to 1964-65

Area	Total income per tax case (Schedule E) 1959-60 £	Total income per tax case (Schedule E) 1964-65 £	increase 1959-60 to 1964-65 %
United Kingdom	644.2	697.0	34.6
East Anglia	597.1	691.1	41.3
Cambridgeshire	597.3	630.1	39.0
Huntingdonshire†	596.2	663.3	47.7
Norfolk	547.7	762.6	39.2
Suffolk	586.6	790.6	40.0

*Excludes persons with total net income of less than £275.

†1959-60 excludes, but 1964-65 includes, Soke of Peckingham.

Source: Commissioners of Inland Revenue (1966 and 1968 reports).

TABLE 39

Weekly household income and expenditure 1964-66

	East Anglia	United Kingdom		East Anglia	United Kingdom
	£, d.	£, d.		£, d.	£, d.
Housing	27 6	46 0	Alcoholic drink	14 11	17 2
Fuel	26 10	28 4	Tobacco	19 1	23 9
Food	116 1	118 10	Durable household goods	20 3	26 11
Transport	52 4	49 3	Other goods	31 1	29 6
Clothing	37 0	39 4	Services	33 2	39 6
Total Expenditure	367 7	420 3			
Total income	466 6	503 6			
Expenditure as % income	63	64			

Source: Family Expenditure Survey data for the years 1964-66 grouped. The sampling error in respect of the smaller regions (like East Anglia) is high.

6 Transport and Communications

Roads

429. Figure 17 shows the trunk road network and the system of inter-town principal roads in the region.

430. The main pattern of trunk roads (i.e. those roads for which the Minister of Transport is the highway authority and which form the main national network of through routes) consists of four north-south routes to London and two east-west links with the Midlands and the North. Of the routes originating in London, A1 traverses the region on its western side, and A10, A11 and A12 terminate within the region at King's Lynn, Norwich and Great Yarmouth. The two east-west routes link Great Yarmouth, Norwich, King's Lynn and Wisbech with the north Midlands (by A47 and A17) and Ipswich and Felixstowe with Cambridge and the south Midlands (A48).

431. County councils and other local highway authorities are responsible for a secondary system of 'principal roads' forming a complementary network to the trunk road system, linking it with the other towns of the region. Principal roads attract specific grant from the Government for approved capital work, at the rate of 75 per cent. Local authorities are also responsible for principal and other non-trunk roads in the towns and for the minor roads which radiate from the smaller townships scattered throughout the region to the local countryside and small villages.

432. In 1966, 53 per cent of all households in East Anglia had at least one car, whereas the proportion of car-owning households in England and Wales was 46 per cent. The population per car in East Anglia was 5.0 compared with 5.9 in England and Wales. If the number of cars in East Anglia increases at the national rate, the figure of 317,560 shown in Table 40 can be expected to double by 1980 and may be considerably more than doubled with the expected rapid growth in the number of households in East Anglia, and possibly tripled by the turn of the century.

433. The increasing demand for road transport emphasizes the inadequacy of the road system for the traffic it has to carry now and for the sharp

TABLE 40

Car ownership in East Anglia

	No.
Households	508,408
Households with 1 car	227,220
Households with 2 or more cars	42,060
Total cars owned	317,560

Source: 10 per cent national census 1955.

increase which it will have to carry in the future. Notwithstanding the improvements which have already been made, the region's trunk roads are in places ill adapted and very badly aligned for the mixture of heavy goods, agricultural and passenger traffic using them. This criticism applies particularly to sections of the east-west routes across the region. Where they pass through the towns, through traffic becomes involved with general town traffic and delays are experienced, especially during morning and evening peak periods.

434. Figure 18* shows the average daily traffic flows on the trunk road system in August 1966, and a traffic loading diagram for trunk and principal roads in August 1966 is given at Figure 19. With the exception of the dual carriageway lengths of road, traffic flows are already generally in excess of the carriageway design capacities, and due to long stretches of poor alignment the roads do not come up to the standards calculated to allow traffic to flow freely and give drivers reasonable opportunities to overtake slower vehicles and maintain the speeds at which they want to travel, thus creating long lines of slow moving traffic. As these flows are progressively exceeded the duration and frequency of the occasions when congestion occurs, and the degree of this congestion, will increase. The inter-urban principal roads are generally less heavily trafficked than the trunk roads.

*PCU's referred to in Figure 18 are Passenger Car Units—the basic unit used in capacity measurements for roads and junctions.

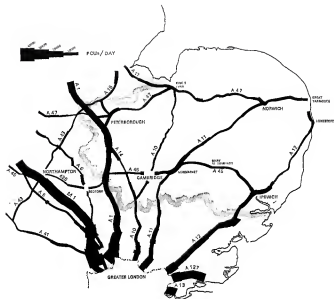


Fig. 18 Traffic density, August 1985—trunk roads

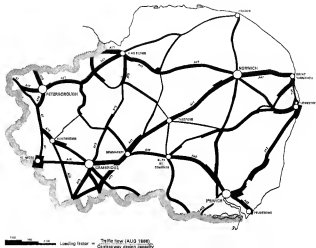
435. To eliminate this type of delay and congestion entirely, it would be necessary to provide additional road capacity which would be more than is needed throughout most of the year. The Ministry of Transport advises us that on many lengths of road the normal traffic density does not create conditions which would give them priority for the expenditure necessary to bring them up to a higher standard.

436. Figure 20 shows in broad outline how the road system should improve in the years ahead with schemes as far announced by the Government as programmed up to 1970 or in the preparation pool (Appendix 19) for construction in the early to mid-1970s. By about 1970 the A1 should have dual carriageways throughout the region; there should be some dual carriageway on A12 between Great Yarmouth and Lowestoft, on A12 south of Ipswich, and on various lengths of A45 and A11; and most of the remaining trunk roads would be single two-lane roads to a good standard of alignment. The schemes intended to alleviate the worst traffic problems of the towns are listed in Appendix 20.

Railways

437. Figure 17 shows the basic railway network which the Government and the British Railways Board have decided should be retained and developed. The railways will provide fast trunk services from Liverpool Street through Ipswich, Stowmarket and Diss to Norwich, with connections to Great Yarmouth and Lowestoft; from Liverpool Street to Cambridge, Ely and King's Lynn; and from King's Cross to Cambridge and to Peterborough. From east to west in the region, the services will be from Norwich through Ely to Peterborough for the Midlands and the North, from Norwich to Cambridge, and from Ipswich to Cambridge with connections to Ely and Peterborough. During the period to 1991, the existing electrified line from London to Colchester may be extended to Ipswich in view of the prospects for growth in the Ipswich area.

438. The rapid growth of motor car ownership and the changing pattern of travelling habits have taken their toll of the economic viability of the railways in the region, as a result of which substantial losses have occurred on many local services. Some



NOTES—

- 1 The "PRIMARY ROUTES" include all trunk roads and the most important "PRIMARY RAIL ROADS"
- 2 The loading factor is based on an inter-town road network only

Fig. 19 Traffic loading, August 1988—primary routes

services have been withdrawn. The economies on remaining local services resulting from simplified charges, rationalisation of services, introduction of un-staffed halts, and collection of fares on trains by guards have reduced losses by up to £500,000 a year. Many services still run at a loss, however, despite substantial economies, and the dotted black lines on Figure 17 represent passenger routes which on the evidence available were not proposed for inclusion in the basic network. This does not mean that a decision has been taken to close them. Each of the passenger services using these routes will be reviewed by the Railways Board.

439. As part of the Railways Board's policy to reduce costs, it is reducing the number of tracks used on some routes; but with modern techniques and improved signalling, singling the track does not lead to a reduction of the route capacity. When a service has been withdrawn but the railway formation remains, it would permit re-institution of the track so as to provide capacity if traffic requirements should later justify the expenditure.

440. It is clearly an economic use of national resources to encourage as much suitable freight

traffic on to the railways as possible, and the railways of East Angles are playing their part in this. On the other hand, road haulage is generally cheaper and provides a more convenient service for short haul traffic. Rail freight traffic should therefore concentrate on long haul between major centres, with the distribution of goods from the rail head by local road traffic. If freightliner terminals were established at Peterborough, Norwich and Ipswich, they could result in a shift of goods traffic to the railways. The Railways Board has plans in hand for special freightliner services from Felixstowe Dock in addition to the Ipswich terminal, which will co-ordinate with traffic from Harwich to provide through liner train services to various parts of the country.

Public passenger transport

441. The growing use of private cars, the five-day week, and changed social habits, particularly the reduction in evening travel, have compelled a reduction in the frequency of public services and the discontinuance of lightly patronised services. Public transport services by road in East Angles are

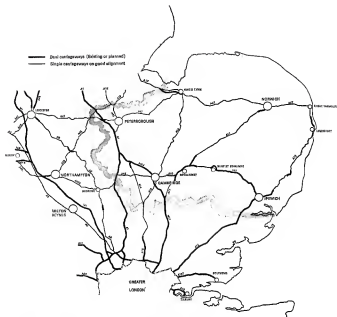


Fig. 29 Planned improvements to the trunk road system up to 1978

provided mainly by the Eastern Counties Omnibus Company Limited (who operate about 50 per cent of the road passenger service vehicles), the municipal undertakings of Ipswich, Great Yarmouth and Lowestoft (about 15 per cent) and independent bus operators (about 25 per cent).

442. Satisfactory interconnection of services is important, and we have welcomed the continuing efforts of operators and the Regional Passenger Transport Co-ordinating Committee and its associated area groups, in which local government representatives are taking part, to ensure effective bus/bus and bus/rail co-ordination.

Holiday transport

443. East Anglia's holiday transport requirements are expected to increase significantly over the next decade. The area draws most of its holiday-makers from the Midlands and South East, and improvements in road communications would probably lead to a considerable increase in holiday and leisure traffic. Holiday traffic has to use the overloaded main trunk routes and causes severe

congestion at certain times. In addition, a number of routes, notably A149 in north Norfolk, are used by holiday-makers.

444. Holiday travellers by rail use the principal trunk lines of the region, with connections to the larger resorts. Some of the branch lines to smaller resorts, which tended to be little used except by holiday traffic, have been closed. Others are under consideration for possible closure because they are unremunerative throughout the remainder of the year.

Civil aviation

445. There are five aerodromes in the region available for civil use, at Cambridge, Norwich, Ipswich, Newmarket and Great Yarmouth; two helicopter sites; and five military aerodromes, at West Raynham, Stradbale, Bessingbourne, Oakington and Wattisham, which permit civil flying.

446. Cambridge airport is privately owned. It has a paved east-west runway of 6,390 feet, and two smaller grass strips. The main activity is in the

overhaul and repair of civil and military aircraft, but adequate facilities are available for commercial civil transport operations. British Midland Airways operate scheduled services to the Channel Islands, and carried some 4,200 passengers in 1966—an increase of 60 per cent over the previous year. The total number of passengers carried on all flights increased from 5,200 in 1965 to almost 8,000 in 1966. Freight traffic also showed a marginal increase of some 10 per cent over the tonnage carried in 1965. There is also a civil flying school.

447. The aerodrome at Norwich has two principal runways both 6,000 feet long, one asphalt and one concrete. The third runway, 3,600 feet long and concrete, could be brought into service. Initially a service for small aircraft is being provided, but it is planned to provide eventually for 40-60 jet aircraft. The aerodrome could be used for holiday

passenger traffic going to the Norfolk coast and the Broads.

448. The civil aerodrome at Nacton near Ipswich is owned by Ipswich Corporation, and is leased to Channel Airways Ltd. It is a grass airfield with a landing distance of 3,978 feet. This could be extended to 4,500 feet. Channel Airways operate Avro 746 aircraft from Ipswich to Paris and the Channel Islands.

449. The small grass aerodrome at North Denes near Great Yarmouth is leased to Anglia Air Charter and is licensed for pleasure flying during the summer months only. British United Airways have a terminal on this aerodrome for their helicopter services to the North Sea oil rigs.

450. British European Helicopters Ltd. operate a helicopter service to the North Sea oil rigs from an unlicensed aerodrome at Seccles and from a riverside site at Lowestoft.

7 Ports

451. The region's ports are playing an increasing role not only in the regional economy but also in that of the nation. They are Wisbech, King's Lynn, Great Yarmouth, Norwich, Lowestoft, Felixstowe, Ipswich and Harwich. Harwich actually lies just outside the boundary of the region but is included in the data in this chapter. There are also 12 Fishery Harbours designated under the 1951 Sea Fish Industry Act. Of these, Wells also has some commercial traffic.

Organisation

452. As elsewhere in Great Britain, there is no standard pattern for port organisation or for the provision of port services in the region. At the nine East Anglian ports there are 12 port authorities and a number of private wharves and quays. Of the former, two (Lowestoft and King's Lynn Dock) are under the control of the British Transport Docks Board; six (Great Yarmouth, Norwich, Ipswich, King's Lynn Harbour, Harwich Conservancy Board and Wells) are managed by various types of independent public trust; two are operated by private companies (Felixstowe and Harwich Navy-yard Wharf); one is operated by British Railways (Harwich Perkeston Quay and the Train Ferry Terminal); and one (Wisbech) is the concern of a local authority.

Employment

453. In 1966 the number of port workers in the region (including Harwich) was about 2,700 and so much accounted for about 9 per cent of those employed in transport and communications. In addition a considerable number of workers in other industries and services depends on port activity.

454. In the employment exchange areas which contain the ports only 1 per cent of all workers are port workers, though this varies from area to area from a negligible proportion in Norwich, to 6·1 per cent in Felixstowe and 15·7 per cent in Harwich.

455. Labour relations in the East Anglian ports are good, disputes usually being settled without stoppage of work. In 1967 the casual system of employment for dock workers in all British ports covered by the Dock Labour Scheme came to an end. The ports in the region which come under the Scheme are King's Lynn, Wisbech, Great Yarmouth, Lowe-

stoft and Ipswich. At Norwich and Wells port labour is provided by the user. At Harwich (Perkeston Quay) the port employer is the British Railways Board. At the Navyyard Wharf at Harwich and at Felixstowe the employer is the private port authority, and no casual labour is employed. Relations under the previous National Dock Labour Scheme were good at the ports concerned, and this has permitted decasualisation to go ahead smoothly.

Facilities

456. The number of services performed and facilities provided by a port authority depend to a large extent on the statutory powers vested in the authority and the type of trade at the port. The trade itself is partly conditioned by the nature of the tides and the depth of water available, factors which vary considerably from port to port. At Wells, King's Lynn and Wisbech the movement of vessels is dependent upon high tides. At Great Yarmouth and Lowestoft the tidal range allows a depth of between 14 and 20 feet of water, while Norwich, 27 miles inland up the River Yare, has only eight to ten feet. On the other hand the approach channel to the Haven Ports (Felixstowe, Ipswich and Harwich) has been increased to a minimum depth of 25 feet.

Present scale of trade

457. Table 41 shows the number of vessels handled at the East Anglian ports in 1966, together with the total net registered tonnage.

458. In 1966 the East Anglian ports handled 5·1 million tons of freight. The ranking of the ports in terms of the total volume of trade handled in 1966 was Ipswich, Great Yarmouth, King's Lynn, Harwich, Felixstowe, Lowestoft, Norwich, Wisbech and Wells. Table 42 shows the volume of trade handled in 1966 at each port.

459. Appendix 21 shows the main commodities handled by the ports in the region in 1966, and illustrates the importance of petroleum to most of the East Anglian ports, particularly to Great Yarmouth and Ipswich. Coal is prominent in the trade of Ipswich and Norwich (the coal tonnage appearing in the Great Yarmouth traffic is almost wholly attributable to Norwich). Timber and grain

TABLE 41
Arrivals at East Anglian ports in 1966

Port	Number of vessels	Net registered tonnage of vessels
King's Lynn	1,270	483,000
Wibeah	276	88,400
Wells	29	8,230
Norwich	382	78,000
Great Yarmouth*	3,467	900,000
Lowestoft	608	108,740
Felixstowe	1,747	846,000
Ipswich	2,686	882,000
Harwich†	2,084	3,481,300
(Felixstowe Quay and Train Ferry Terminal, excluding Railway Wharf)		

*Great Yarmouth figures include frequent trips made by the North Sea oil gas rig supply vessels.

†Harwich figures include accommodation of passenger vessels. The tonnage figures for Harwich are particularly high, partly due to the number of passenger vessels whose tonnage per foot length is much higher than freight vessels, and partly due to the frequency of passenger vessel arrivals. The tonnage of freight vessels is, for example, Harwich and Felixstowe are similar.

Source: Compiled by Department of Economic Affairs from information supplied by port authorities.

TABLE 42
Trade handled at East Anglian ports in 1966

Total tonnage (Rounded gross tons)							
Port	Foreign			Coastwise			Total trade
	Imports	Exports	Total	Inwards	Outwards	Total	
King's Lynn	271	184	455	337	81	428	884
Wibeah	79	17	96	35	6	41	140
Wells	9	7	16	—	3	3	19
Norwich (1965-67)	66	3	69	55	—	55	123
Great Yarmouth (including Norwich)	296	161	457	587	3	590	1,040
Lowestoft	71	52	123	55	2	57	220
Felixstowe	473	261	735	55	10	75	681
Ipswich	410	118	527	1,494	57	1,551	2,106
Harwich	437	365	802	1	—	1	803

Notes: a. Figures exclude coastal traffic such as fish landings; also excluded is used packaging and unblended freight, which is of some importance to a number of ports, as illustrated in Appendix 21.

b. Norwich relates to financial year.

c. Figures for Wells are approximate. Information on the volume of trade handled by the ports is obtained from the annual returns made by the ports to the National Ports Council. No such return is made by Wells (being a fishing harbour), and data relating to this harbour have been inserted at special request by that port authority.

d. The data relating to Harwich are (for the purposes of Table 41 and throughout this chapter) also included with themselves from Great Yarmouth, as all vessels in the port of Harwich have to pass through the port of Great Yarmouth.

Source: National Ports Council, Digest of Port Statistics 1967. Department of Economic Affairs.

are important commodities at King's Lynn, Wibeah, Lowestoft, and Great Yarmouth. Trade at Wells is confined to grain and fertilisers. Great Yarmouth (and to a lesser extent Lowestoft) have benefited from accommodating the service stations and supply vessels which serve the North Sea oil and gas rigs.

460. Table 43 shows the four main commodities handled by each port expressed as a cumulative percentage of the total trade of that port. The Table brings out that a large proportion of the trade of the ports is accounted for by only a few commodities. 461. The division of trade between foreign and coastwise traffic is illustrated in Figure 21. Nearly all the coastwise traffic is petroleum and coal.

Growth of trade: volume and value
462. In recent years all the East Anglian ports except Norwich have experienced a rapid growth in the tonnage of goods handled. Table 44 shows tonnages handled at each port for the years 1960-66 inclusive. The 1966 total for all the ports in the region shows an increase of 66 per cent over 1960. The corresponding figures for Great Britain's trade as a whole over this period is not available, but for the period 1961-66 the increase for Great Britain was 24 per cent, which compares with a 27 per cent increase for the East Anglian ports. The port of Felixstowe has experienced a particularly rapid rate of growth. Norwich is the only port to show a reduction in tonnage handled: during the last three

(continued on p. 86)

TABLE 43

Diversification of trade at East Anglian ports (an index of concentration)

Port	Index of concentration by number of commodities handled as percentage of total 1955				Percentage
					Total trade
King's Lynn	37.3	53.1	54.7	72.9	100
Wisbech	26.8	50.7	73.6	83.9	100
Wells	54.3	54.6	100.0	—	100
Great Yarmouth	45.6	54.5	51.0	57.2	100
Norwich	52.5	60.5	87.3	81.6	100
Lowestoft	21.5	35.4	59.0	56.7	100
Felixstowe	28.5	33.1	39.7	45.1	100
Ipswich	37.5	61.2	58.0	74.8	100
Harwich	28.9	40.1	51.3	59.2	100

Source: National Ports Council, *Digest of Port Statistics 1967*, and Department of Economic Affairs.

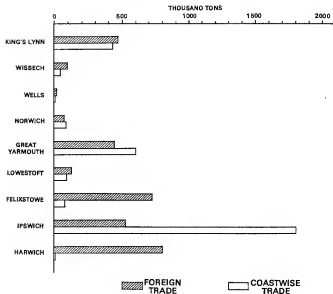


Fig. 21 Port trade 1966

TABLE 44
East Anglia ports: estimated volume of trade* handled 1960-66

Port	1960	1961	1962	1963	1964	1965	1966	% change 1960-66
King's Lynn	633,212	704,067	630,127	670,441	758,894	773,968	884,821	+ 29.0
Widbeach	97,428	115,235	103,095	79,814	101,012	162,482	135,858	+ 43.6
Wells	5,000 (assumed)	5,000 (assumed)	N/A	N/A	8,690	8,500	18,000	N/A
Great Yarmouth (including Norwich)	860,000 (assumed)	900,000 (assumed)	N/A	990,840	1,034,478	1,106,761	1,040,666	+ 1.1† (1963-66)
Norwich (year ending 31st March)	216,826 (159-460)	173,453 (160-481)	190,771 (161-432)	217,310 (452-633)	225,986 (463-641)	244,368 (64-605)	221,531 (95-663)	- 29.0 (1958-66) 1966-67)
Lowestoft	145,615	150,100	153,800	153,401	188,000	220,000	244,223	+ 67.7
Folkestone (year ending 31st March for 1961-64)	247,879	287,844	364,851	373,486	370,737	586,536	815,716	+ 223.2
Ipswich	1,433,243	1,519,400	1,680,145	1,890,278	1,738,711	1,870,854	2,113,076	+ 46.8
Harwich	451,446	464,828	512,098	562,342	686,313	675,846	804,623†	+ 78.2‡
East Anglia	3,900,000	4,100,000	—	—	—	5,206,000	8,100,000†	+ 56.4‡ + 26.8 (1961-65)
Great Britain	—	241,300,000	—	—	—	296,800,000	—	+ 23.6 (1957-65)

* Figures: † Landings of fish at Lowestoft and Great Yarmouth.

‡ Shortages of coal, packing and other commodities which are of some significance at Folkestone.

[The percentage change 1960-66 in the volume of trade handled is Great Yarmouth, excluding Norwich, was approximately +17 per cent.

† Norwich Ferry Dock. Yard isolated for first time in statistics as 1966, although started operations in 1964.

Source: Ministry of Transport, Annual Abstract of Statistics and Department of Economic Affairs.

TABLE 45
East Anglia ports: value of foreign trade handled* 1961 and 1966

Port	1961			1966			1961-66 % change		
	Total trade	Imports	Exports	Total trade	Imports	Exports	Total trade	Imports	Exports
King's Lynn (including Wells)	15,096,000	9,457,000	5,639,000	30,295,000	18,687,000	11,608,000	100.6	97.6	105.7
Wibbech	2,146,000	1,863,000	283,000	2,273,000	1,891,000	381,000	5.9	1.0	38.2
Great Yarmouth (including Norwich)	9,274,000	8,054,000	1,170,000	25,317,000	20,524,000	5,792,000	185.3	154.8	395.0
Lowestoft	1,403,000	1,360,000	93,000	13,102,000	4,553,000	8,549,000	901.7	234.8	9,092.6
Ipswich	23,614,000	17,352,000	5,962,000	82,670,000	35,728,000	16,944,000	53.2	105.9	189.3
Harwich†	167,255,000	95,681,000	71,574,000	286,944,000	144,968,000	141,976,000	147.4	115.6	189.9
Felixstowe	167,255,000	95,681,000	71,574,000	126,816,000	81,332,000	45,483,000	147.4	115.6	189.9
East Anglia †	218,188,000	133,787,000	84,421,000	538,467,000	297,671,000	250,794,000	146.7	115.1	187.0
United Kingdom†	8,076,834,000	4,395,138,000	3,681,496,000	9,831,259,000	5,367,171,000	4,464,088,000	21.7	22.1	21.3

*Figures are rounded to nearest thousand and therefore totals may not sum to total.

†Harwich Many Dock Year included from 1965. Figures not included in those for 1966.

Source: Dock and Harbour Authorities Association (Customs and Excise data).

years there has been a substantial drop in the number of trading vessels, and the discontinuance of coal-gas manufacturing at Norwich has meant a substantial reduction in coal cargoes.

463. East Anglia handles approximately 2 per cent of Great Britain's total trade, in terms of volume. In terms of value (foreign trade only—no customs data for coastwise trade), the East Anglian ports account for approximately 5 per cent of the foreign trade of Great Britain. Table 45 shows the value of goods handled (foreign trade only) for the region and the United Kingdom in 1961 and 1966. During this period the value of the United Kingdom's foreign trade increased by 21.7 per cent; the corresponding figure for the East Anglian ports was 146.7 per cent. Between 1961 and 1966 the value of the United Kingdom's foreign trade increased by approximately £1,750 million, and it is of great significance that of this increase 18 per cent was accounted for by the East Anglian ports. Table 46 ranks the East Anglian ports according to the value of goods handled compared with all the country's ports which conduct foreign trade.

TABLE 46

Ranking of East Anglian ports in terms of value (foreign trade only)
Out of total of 88 UK ports which conduct foreign trade

Harwich	7
Felixstowe	12
Ipswich	22
King's Lynn (Including Wells)	27
Great Yarmouth (Including Norwich)	30
Lowestoft	37
Wibaux	61

Increasing services and future prospects

464. Competitively recently most of the ports in the region have commenced, or increased, regular general cargo services with the EFTA/EEC countries with goods of relatively high value. Table 45 reflects, for example, the growth in general cargo traffic, particularly on the export side, at Lowestoft: in 1961 this traffic was

negligible, but with a new regular service to Rotterdam it had assumed some significance by 1966. Harwich and Felixstowe handled over three-quarters of the value of all foreign trade passing through East Anglian ports in 1966. Harwich accounted for more than half the regional figure, and 50 per cent of its foreign trade was in machinery and transport equipment.

465. Professor K. Gwillen, in a study of the Haven Ports*, forecast a very rapid increase in traffic through those ports, particularly in the next few years. This growth was seen to be predominantly in the short sea trades with Western Europe and Scandinavia where frequent services in fairly small vessels with quick turnaround are economic.

466. It is essential that the good labour relations in the region's ports continue. In order to secure the maximum possible return on the substantial sums recently invested in the expansion and modernisation of port facilities. At Harwich and Felixstowe there are container and roll on/roll off facilities on a considerable scale. There is a roll on/roll off service operated at King's Lynn to Hamburg. A roll on/roll off berth has been completed by the port authority at Great Yarmouth. Some use of unklade is made at Ipswich, and the port has sought Ministry of Transport approval to extend its container and roll on/roll off facilities.

467. The Channel Tunnel may divert a proportion of the general merchandise traffic from the ports on the Stour-Orwell estuary, although bulk traffic from these ports is unlikely to be effected.

468. In July 1966 the Government declared its intention† of re-organising the ports on the basis of public ownership. In July 1967 the Government issued a 'working document' containing proposals to bring 72 ports under the control of a National Ports Authority and eight regional port authorities‡. The proposed re-organisation will effect all the region's ports except Norwich, Wells, Harwich (Pakeston Quay) and Harwich Navyyard Wharf.

*A Pilot Study of the Haven Ports of Harwich, Felixstowe and Ipswich, prepared for the East Anglia Economic Planning Council and completed at the end of 1966.

†Transport Policy, Cmd. 3067, HMSO 1966.

‡Working document on ports control, Ministry of Transport, 1967.

8 Power Supplies

469. East Anglia has a low energy demand—in fact the lowest of any region in the country—and *per capita* energy consumption in terms of coal equivalent is well below the national average. The supply and distribution of energy to widely dispersed consumers has not presented any serious problem. The low demand is due partly to the small population and partly to the present character of the industrial structure which has been considerably influenced by remoteness from the principal sources of fuel and power exploited intensively in 19th century industrial development. The only large fuel-intensive concerns are the flinton brick-works and the British Sugar Corporation beet-processing factories. Tables 47 and 48 show the

pattern and size of consumption in the region in 1967, and primary fuel usage for gas and electricity production. Figure 22 shows existing and proposed sources of power supplies.

470. The significant points in the regional energy picture are the low and declining direct usage of solid fuels (31 per cent of the total final energy consumption on a thermal basis as compared with a national average of 38 per cent in 1967) and the rapid growth of oil and secondary fuels usage, particularly gas in the domestic sector. Industry accounts for only 40·0 per cent of solid fuel consumption (46·5 per cent United Kingdom), 14·3 per cent of gas consumption (23·0 per cent United Kingdom), 25·9 per cent of electricity

TABLE 47

Fuel and power consumption in East Anglia 1967

	Domestic	Industrial	Other	Total
Solid fuels (m. tons)	0·83	0·74	0·29	1·86*
Gas (m. therms)	42	9	12	63
Electricity (m. kWh)	1,831	1,023	1,095	3,949
Oil (m. tons)	0·12	0·50	1·40†	2·03

*Excludes solid fuels used for making gas and electricity.

†Includes transport fuels, but excludes fuels used for making gas and electricity.

TABLE 48

Coal and oil used for gas and electricity making 1967

	Estimate	
	Coal m. tons	Oil m. tons
Gas	0·25	0·08
Electricity	0·85	0·35

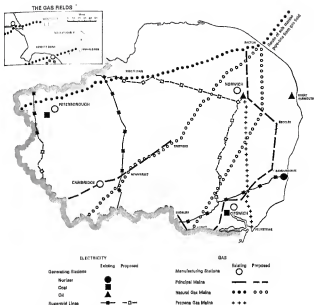


Fig. 22 Power supply network

consumption (37.5 per cent United Kingdom) and 24.5 per cent of oil consumption (39.3 per cent United Kingdom).

471. Gas is provided by the Eastern Gas Board, electricity is produced by the Central Electricity Generating Board (CEGB) power stations and distributed by the Eastern Electricity Board, and coal is brought in by rail and road from the Midlands and Yorkshire coalfields with some coastal traffic from the northern fields. Oil products are also conveyed from outside sources, principally the refineries in the south.

Electricity supply

472. Electricity in the region is transmitted over the CEGB grid system from its nuclear power station at Sizewell, its oil-fired station at Great Yarmouth, its coal-fired station at Ipswich and smaller stations in Norwich and Peterborough. Sizewell, a Magnox type station with an output of 800 MW is by far the largest of these and began operating in 1965. An application for statutory consent to build a second station on the site has

been made. It is to be of advanced gas-cooled reactor design with a total output of about 2,600 MW. The CEGB is interested in obtaining a War Department site at Denver (some ten miles south of King's Lynn) for a future power station. Stations on these sites would fully take account of the future needs of the region. The present conventional stations provide about three-quarters of the regional consumption, and the nuclear station accounts for the balance with a large 'export' out of the region. The Eastern Electricity Board's programme of rural electrification has been completed.

The gas industry

473. This has been largely moving from coal to oil for gas making. The main production at present is from an oil reforming plant at Norwich, using propane imported through Felixstowe and delivered by pipeline. Coal gas making, being much more expensive, is being phased out.

North Sea gas

474. By far the most significant development in

the energy field has been the discovery of natural gas under the North Sea (see Figure 22).

475. Following the first strike in 1965 in the West Sole Field, 46 miles east of the Humber, a bigger discovery was made in 1966, 30 miles north-east of Cromer, now known as the Leman Bank Field. Further discoveries were made off the East Anglian coast in 1968 at the Indefatigable Field, some 55 miles offshore, and at the Hewett Field 15-20 miles off the coast. Submarine pipelines have been laid from the Leman Bank Field to a landfill terminal at Bacton, and from West Sole Field to a terminal at Easington in Yorkshire. A second line to Bacton is to be laid for production contracted for by the Gas Council from the Hewett Field. Gas is already coming ashore through the pipeline from West Sole and is being fed into the national methane grid near Sheffield. Further supplies from the North Sea should be flowing through the treatment plant at Bacton and into the existing methane grid near Rugby before the end of 1988. Plans for the exploitation of the Indefatigable Field are being considered. Great Yarmouth is the supply and service port for drilling and pipeline operations in the three fields off the Norfolk coast.

476. The 1967 White Paper on fuel policy* put the recoverable reserves of gas in the fields already determined in the North Sea as 25×10^{10} cubic feet. This places the United Kingdom part of the North Sea Continental Shelf amongst the major gas bearing areas in the world, though the known resources in Holland, Algeria and North America are bigger. The reserves are stated to be enough to supply gas for at least fifteen years at a rate of 11,000 million therms a year, about two and a half times the present national gas consumption of over 4,000 million therms a year; there is a prospect that this supply could rise to over 14,000 million therms a year by 1975.

477. It is estimated that by 1970 natural gas will meet over 5 per cent of the national energy demand of 310 million tons of coal equivalent, rising in the mid-70s to about 15 per cent of the national demand of 350 million tons of coal equivalent.

Utilisation and pricing of North Sea gas as a fuel

478. Present policy is to maximise economic gain by phased conversion of the 'premium' industrial and domestic consumers from town gas to natural gas over a period of about ten years. The White Paper confirmed that the Gas Council will sell natural gas to all area boards on the basis of a uniform tariff, subject only to variations for load factor, because transmission costs within Britain are so low that differential tariffs for gas coming from different sources are not worthwhile. Prices to consumers will, however, continue to reflect differences in the area boards' distribution and other costs. It is understood that all area boards are planning for rapid absorption of natural gas to

offset their capital costs of transmission and conversion: the Eastern Board's programme is to convert the whole region within a period of about seven years. During the early period, natural gas will be used as an enricher for 'lean' gas and as a feedstock for existing gas plants, and also for direct supply to new industrial consumers and new building districts.

479. Therefore East Anglia will be able to obtain this primary fuel at a cost similar to other regions, whereas in the past the region has had to pay heavy extra costs for solid fuels and marginally higher costs for oil. But there is no sign that proximity to the gas fields will give East Anglia advantages over other regions in the price for gas, nor even that individual firms or towns will benefit by being close to the developing pipeline grid.

480. In any event, fuel costs are not overriding location factors for most industries, which will continue to be more concerned with labour supply and communications with raw materials, supplies and markets. We conclude that East Anglia does not offer new fuel-cost advantages to fuel-intensive industries such as metal manufacture, chemicals, cement, and pottery and glass.

Future developments

481. Forecasts of further development are extremely difficult until the full extent of North Sea gas reserves are known and in the absence of a basic bench price. The White Paper suggested that in order to build up supplies quickly to the chosen depletion rate, some gas would have to go to the bulk industrial market where resource savings are likely to be lower than in the premium markets. The White Paper also drew the broad conclusion that something over twice the level of reserves so far discovered would need to be assured before, from the point of view of resource savings, it would be desirable to sell gas extensively to the bulk market. Meanwhile, under the 1984 Continental Shelf Act, the Minister of Power may only give his consent to the direct supply of gas for use as a fuel if he is satisfied that the gas was offered first to the gas industry at a reasonable price. Even then, sales are only permitted to industrial consumers.

482. North Sea gas for non-fuel uses may be supplied by the gas industry or, with the Minister's consent, direct supply may be provided by the producers. If its price and quality were satisfactory, natural gas could be used as a chemical feedstock for such basic chemicals as ammonia, acetylene and methanol. Ammonia, the basic chemical for production of fertilisers, is at present mainly obtained through the naphtha process. However, we feel that if natural gas is used in chemicals production it may be that the pattern of large and completely integrated complexes centred around major oil refineries would continue, because oil derivatives offer a far wider range of feedstocks than natural gas. Even if natural gas were economic for some processes, the petrochemicals industry would be likely to remain centred around the

*Fuel Policy, Cmd. 3435, HMSO 1967.

present oil refinery sites with their deep-water access for large tankers. If direct pipelines were economic, the east coast sites at Teesside, Humberide and possibly Grangemouth would still be better favoured locations than any part of East Anglia, unless firms decided that production plants at Great Yarmouth or Lowestoft would be commercially viable. There are no sizeable chemical

plants there at present. So far there have been no proposals of this sort from the chemicals industry.

Conclusion

483. Future supplies of oil fuels and power are in the Council's view likely to be available to meet on time any foreseeable demands from developments in the region.

9 Water Supplies

484. Until river authorities have completed the statutory surveys of their areas under the 1983 Water Resources Act, the best estimates of the water needs and resources of East Anglia until the end of the century are those in the 1966 report of the Water Resources Board*. This report estimates demands for public water supply, taking into account foreseen population growth and migration including proposals for New and expanding towns, and demands for industrial and agricultural purposes. The industrial and agricultural demands are additional to the public supply of water and involve direct access to rivers or private ownership of boreholes. The Board also considered known and potential resources and made recommendations with a view to safeguarding water supplies during the next decade and investigating proposals for meeting demands to the turn of the century. The report indicates that although East Anglia is in the driest part of the country, it should have enough water to meet demands until the year 2001 with some to spare for the deficiency zone to the south and west.

485. The region lies almost entirely within two river authority areas; it covers the East Suffolk and Norfolk River Authority area and part of the Great Ouse River Authority area. Peterborough is within

the Welland and Nene River Authority area. The Great Ouse River Authority extends its boundaries well beyond the East Anglia Region into Bedfordshire and covers an area that will include the New town of Milton Keynes, and the Essex River Authority overlaps the regional boundary. River authority areas do not therefore synchronise with either regional boundaries or local authority administrative areas; they are based on catchment areas.

486. The Water Resources Board report works on the basis that by the year 2001 the estimated population in the authorities' areas will be almost twice the 1984 population, while in the same period estimated water demands will more than treble. The public supply demand forecast, which takes into account increasing consumption per head of population based on previous growth trends and estimates of future population supplied by the Ministry of Housing and Local Government, is illustrated in Table 49.

487. Industrial requirements were calculated by considering the direct demands of privately owned business not taking supplies from the public mains and those of the Central Electricity Generating Board. Forecasts for the future in relation to private industry were based generally on an assumed growth rate of 4 per cent per annum. Electricity demands are expected to increase vastly

*Water Supplies in South-East England. HMSO 1966.

TABLE 49
Public water demand forecast

River authority area	1984		1991		2001	
	Population '000	Average daily demand mg	Population '000	Average daily demand mg	Population '000	Average daily demand mg
Great Ouse	980	48	1,310	107	1,800	171
East Suffolk and Norfolk	770	31	930	66	1,210	82
Total	1,750	80	2,240	163	3,110	263

in the 1970s and 1980s and these must be met by building new power stations. Demands for water for cooling purposes will increase correspondingly. 48B. Agricultural demand falls into two general classes: for spray irrigation, and for general farm uses. It is not expected that there will be any substantial increase in the latter type of demand, and such increases as will occur will be covered by the general allowance for increased public water supplies. The Water Resources Board report concentrates on the demand for spray irrigation. For unrestricted growth in the growing season the region has a rainfall deficiency varying between two and a half and five inches for different crops. This can represent an irrigation need of up to 100,000 gallons per acre. Judged on the acreage that might benefit, the theoretical daily demand for water probably approaches the domestic water requirements at the peak of the growing season. The Board considered spray irrigation demand for 'low value' and 'high value' crops separately. 'Low value' crops make an effective demand only when water is available for abstraction directly from inland waters during the irrigation season without conservation works, but 'high value' crops justify the provision of conservation works, groundwater abstraction and, where necessary, the transfer of water from other areas. regard was also paid to methods of supply, which fall largely into the following three categories:

- a direct abstraction from nearby inland waters depending upon dry weather river flows;
- b abstraction from boreholes;
- c abstraction from inland waters (or boreholes) in winter for storage in reservoirs for summer use, or use might be made of groundwater storage by depleting the groundwater reserves and providing compensating boreholes to maintain stream flows in dry weather.

Both the Great Ouse and East Suffolk and Norfolk River Authority areas, which are without dry weather flows available for abstraction from inland waters, will have deficiencies which must be met largely by local farm storage. The Great Ouse area deficiency must alternatively be set against the export possibilities of major surface or ground-

water storage schemes in the area. In the East Suffolk and Norfolk area some additional direct groundwater abstraction will be possible, and river regulation by controlled groundwater use might support further abstraction, particularly in Norfolk. 48B. In order to plan future supplies the Board has calculated likely deficiencies by comparing estimated future demand with supplies from authorised resources. The effective deficiencies of public water supplies are the differences between authorised resources and estimated demands after taking account of non-transferable surpluses and the additional resources arising from re-use of effluent. The deficiencies represent the further amounts of water which will have to be provided for public supply. For industry, deficiencies are net quantities after water returned to the rivers by industrial establishments has been taken into account. The combined future water deficiencies are summarised in Table 50.

490. It is expected that the region will be able to meet these deficiencies as well as the irrigation needs by the exploitation of its own resources, and in fact make water available for export to adjoining areas of shortage. To meet immediate needs within the region there are a number of schemes for new boreholes and direct abstraction from rivers. To meet longer term requirements the development of groundwater storage and the provision of some new surface storage will be necessary.

491. Two major schemes are contemplated that would export water from the area, both involving the development of the water resources of the Great Ouse Basin. The transfer of water to Essex by pumping it from the Ely-Ouse catchment into the hardwaters of the Essex rivers from which it would be abstracted lower down and put into existing storage reservoirs for the public supply, has been provided for in a Bill now before Parliament. The optimum development of groundwater storage is being investigated with a pilot scheme near Thetford. This is being carried out by the Great Ouse River Authority in conjunction with the Water Resources Board, and in its simplest form is concerned with the use of the chalk aquifer as a natural underground reservoir. Water would be

TABLE 50
Future water deficiencies

River authority area	Estimated future deficiencies (to nearest 5 mgd)		
	1971	1981	2001
Great Ouse	20	55	125
East Suffolk and Norfolk	5	15	40
Total	25	70	165

pumped from the aquifer to augment river flows, thereby making more water available for abstraction from the rivers.

482. The Water Resources Board is now carrying out a desk study of the Wash Storage project and the outcome of this and any future full-scale feasibility study would determine the pattern of development of the water resources of the area towards the end of the century.

483. Although the region is self-sufficient as a whole, two expending areas are likely to need water from outside before the end of the century. Peterborough will need more water from the Lincolnshire Limestone and in the longer term might need to be supplied from a major source in Rutland if one should be developed there. Ipswich will need a major new source of supply by the 1970s. According to a report by the water engineer of the Ipswich Corporation, the traditional source of supply (the groundwater of the Gipping and Deben catchments) is likely to be fully committed by 1971. The report suggested that the growth in demand between 1971 and 1981 could best be

met by the development of a pump storage scheme deriving its supply from the River Gipping and involving the construction of a storage reservoir at Holbrook (in the Essex River Authority area), provided the proposed reservoir site is satisfactory. Preliminary investigation has shown no insurmountable difficulty but further detailed investigation of the site is now in progress with the full support of the river authorities concerned. After 1981 it will be necessary to meet the increase in demands by transfer, perhaps from a second stage of the Ely-Ouse scheme.

484. Investigation into desalination indicates that the cost of desalted water treated and delivered to a convenient distribution point will be about twice the cost of water from conventional sources, except possibly if used in conjunction with existing storage. In view of this and of the present stage of technological development, desalination is unlikely to make a significant contribution to augmenting the water resources of the region for some considerable time to come.

The housing stock

485. In 1967 there were just over one and a half million people living in the region, occupying rather more than half a million dwellings. There is relatively little sharing of dwellings by separate families or overcrowding.

486. Table 51 shows the pattern of house tenure according to the 1966 census figures. This pattern differs from that in England and Wales in the high proportion in the 'other tenures' category, which is a reflection of the relatively large numbers of agricultural tied cottages, tenant farmers and service married quarters. There were proportionately more owner occupiers and fewer council tenants in East Suffolk and rather fewer owner occupiers and more 'other tenures' in West Suffolk.

Progress in housebuilding

487. Dwellings built between 1945 and the end of 1967 totalled 210,931, 106,770 for public bodies (mainly the local authorities) and 105,161 by private enterprise. From 1961 to 1967 the annual rate of completion of both council and privately owned dwellings nearly doubled. At the end of 1967 about 37 per cent of the dwellings had been built since the second world war.

488. Details of the numbers of dwellings started and completed between 1961 and 1967, expressed also as a percentage of the total for England and

Wales, are given in Appendix 22. By 1967 about 5 per cent of all houses and flats built in England and Wales were built in East Anglia. This is equivalent to a rate of just over 11 per thousand of the population in the region, compared to 7 per thousand for England and Wales. The higher rate of housebuilding in the last few years is in part due to the additional housebuilding taking place in the expanding towns to accommodate Londoners, but also to a significant increase in housebuilding for private ownership.

CONDITION OF DWELLINGS

489. *Unfit dwellings.* A house is statutorily unfit for habitation if it is so far defective in respect of repair, stability, freedom from damp, natural lighting, ventilation, water supply, drainage and sanitary facilities and arrangements for cooking, preparing and storing food or for the disposal of waste water, that it is not reasonably suitable for occupation. Some 19,000 of the 770,000 houses estimated in 1965 by local authorities in England and Wales to be unfit were situated in East Anglia. This figure represents about 2.5 per cent of the national estimate, whereas East Anglia's population comprises 3.2 per cent of the population of England and Wales. Looked at in another way, the number of unfit houses was about 3.5 per cent of

TABLE 51
Percentage distribution of tenure by households 1966

Area	Tenure			
	Owner occupied	Rented		Other
		Council	Private	
England and Wales	48	27	19	5
East Anglia	47	25	16	10
Cambridgeshire and Isle of Ely	48	27	17	10
Huntingdonshire and Peterborough	48	27	15	10
Norfolk	45	27	15	10
East Suffolk	53	21	15	8
West Suffolk	41	27	19	14

the region's housing stock. On the basis of the 1985 returns, three towns in the region had more than 1,500 unfit houses: Norwich, Cambridge and King's Lynn. Norwich assessed 6.25 per cent of its housing stock as unfit, Cambridge 5.34 per cent and King's Lynn 12.8 per cent. The results of the National House Condition Survey carried out early in 1967 indicate that there are in fact about 1.8 million unfit dwellings in the country. It has not been possible to break down the Survey figures into regions, although it seems clear that unfit dwellings are more prevalent both in urban and in rural districts than previously thought.

500. Between 1961 and 1965 some authorities cleared 50 per cent or more of the dwellings then estimated to be unfit. On the other hand a number of authorities have undertaken little clearance work. In some districts the number of unfit houses may be quite small, but many authorities, particularly those which estimated more than 500 unfit dwellings in 1965, have a sizeable problem and generally need to increase their annual rate of clearance, substantially in some cases. The 1967 Housing Act now provides rates of Exchequer subsidy which are intended to encourage the process. The number of unfit houses demolished or closed from 1965 to 1967 in the region as the contribution to the national slum clearance programme is given in Appendix 23.

501. *Lack of basic amenities.* One indicator of the quality of the housing stock is the extent to which households have exclusive use of the three basic amenities of hot water tap, fixed bath and inside water closet. At the 1966 census 354,000 (70 per cent) of East Anglian households were in this position. The rate was slightly below the average for England and Wales. Further analysis (see Appendix 24) shows that, whilst East Anglia's urban areas were only slightly below the national average for urban areas, the region's rural areas compared very unfavourably. Two noticeably ill-provided areas were first a compact Fenland area centred approximately on Wisbech, and secondly an extensive belt of rural districts reaching from north Norfolk into East Suffolk. In these areas only 63 per cent and 58 per cent respectively of all households had exclusive use of the three basic amenities.

502. The proportion of households with exclusive use of the basic amenities is influenced by the extent to which dwellings are shared, although this is not an important factor in East Anglia. However an alternative criterion is the extent to which basic amenities are absolutely lacking. By this standard East Anglia as a whole compares even less favourably with England and Wales. Some 100,000 households (20 per cent) lack hot water tap or fixed bath, and 40,000 (8 per cent) have no water closet. The difference is especially marked in the rural areas where the proportions of households without hot water, fixed bath or any sort of water closet are roughly double the national averages for rural areas. The Fenland area shows up badly on this score, but worst of all is the belt of rural

districts from north Norfolk to East Suffolk where one-third of all households lack a hot water tap or fixed bath, and one-quarter have no water closet. In the latter part of the region the problem is confined to the rural districts; by contrast many of the towns enjoy a high standard of provision.

503. The average domestic rateable value in the region is £55: there are 117,000 houses (nearly a quarter of the stock) with a rateable value of less than £30. Many of these are older houses, though comprehensive information about the age of dwellings is lacking. Not all are sub-standard by any means, but in broad terms this group of houses presents a housing problem, potential or actual, which will need to be dealt with in the years ahead by repair, improvement and replacement.

Improvement of dwellings

504. Improvement grants to meet half the cost of improvements up to certain maxima are paid by local authorities to owners of houses with a life of at least fifteen years. Owners have a right to grants to provide the basic amenities of bath, wash-hand basin, hot and cold water supply, inside water closet and food store. Grants for conversions and for improvements to a higher standard specified by the Ministry are made at the local authority's discretion. The Exchequer contributes three-quarters of the amount of the grants paid to private owners. Local authorities receive Exchequer contributions on a similar basis for improvements to their own houses. Details of the number of dwellings improved with the aid of grants are given in Appendix 25. In April 1988 a White Paper* was published setting out the Government's proposals for legislation intended to encourage a greatly increased drive on the improvement of existing sub-standard houses and their environment.

505. Local councils are given powers to require the improvement of tenanted dwellings in certain circumstances under the 1984 Housing Act. These provisions are generally more suitable for conditions in the larger towns with areas of obsolescent development. By December 1987 five East Anglia authorities had reported to the Ministry that they had declared 13 improvement areas: Bury St. Edmunds (2), Wisbech (8), Felixstowe (2), Colford (2), Beccles (1).

Future housing requirements to 1981

506. *New town and town development.* The New town schemes at Peterborough and Ipswich will each require the building of some 23,000 dwellings by 1981. Under the current schemes of town development a further 15,000 houses remain to be built. Further schemes of town development at present under consideration may represent a need for another 15,000 houses. In broad terms, the New and expanding towns mean a demand for between 75,000 and 80,000 dwellings over the next fourteen years.

507. *Natural increase in population and net movement to other places.* The population of the region

**Old Houses into New Homes*. Cmnd. 9802. HMSO 1988.

is likely to increase through the natural growth of the existing population and through voluntary migration by 170,000 from 1966 to 1981. The number of houses required to meet these needs may be of the order of 60,000.

508. *Replacement houses.* The difficulties of assessing the condition of East Anglia's housing stock have been referred to. In all probability there are substantially more than 100,000 houses which ought to be improved or replaced by 1981; possibly 20,000 houses should be demolished and replaced, bearing in mind that the movement of labour from agriculture to urban employment may not always call for rehousing in the same locality.

509. *Housing shortage.* The 1966 census showed

that some 8,000 households did not have a separate dwelling of their own. Although this is only a rough measure, it suggests that the resources needed to deal with the housing shortage will be very small compared with the resources needed for improvement, renewal and growth.

510. *Conclusions.* The best estimate we can make of the total number of new dwellings which may be needed for all purposes by 1981 is of the order of 150,000-200,000. In addition, around 100,000 existing dwellings should be improved. The amount of new construction is within the capacity of the building industry on the basis of what has been achieved in recent years. The amount of improvement work suggested would, however, be rather greater.

11 Education

511. Education in the region is administered by the five county and three county borough councils, which are local education authorities. In addition, the boroughs of Cambridge, Lowestoft and Peterborough exercise a limited range of educational functions on behalf of their county councils. All the local education authorities are self-sufficient for primary and secondary provision. Further education is organised over the wider area covered by the East Anglia Regional Advisory Council for Further Education. The area presents no sort of educational unity, and it is difficult to make general comments on the standard of provision or services applicable throughout the region.

Primary and secondary education

512. In the primary and secondary sectors the standard of accommodation, particularly in some rural areas, is not always all that could be desired, though the problem of rural schools has been tackled urgently and successfully in some areas. Very small rural schools, which were at one time a feature of the region, are comparatively expensive to run and sometimes difficult to staff adequately; many are now being replaced by larger units. Despite restrictions on capital investment, a good deal has been done to replace or improve old schools and provide new ones for the expanding population. Over the last five years 40,000 school places have been provided, representing about one-sixth of the current school population. Reasonably flexible arrangements exist for pupils from one authority to use the facilities of others, though some authorities, particularly the smaller ones, sometimes provide facilities themselves which could be made available to them more economically by neighbouring authorities.

513. We understand that there are varying degrees of staff shortages. The pupil-teacher ratios in both primary and secondary schools are a little more favourable than the national average. This is attributable partly to the extensive use of unqualified teachers, which is likely to have a generally adverse effect on standards. Some heads of schools have joined together to give their unqualified helpers a course in teaching methods, and such courses have proved very useful. Most

authorities seem to find it particularly difficult to staff infant schools and classes, and many of the younger women teachers especially are unwilling to work in small and remote village schools.

514. A great deal of experimental work is taking place in the primary sector. Authorities are giving a good deal of support to the various schemes of curriculum development sponsored by the Nuffield Foundation for Educational Research.

515. Plans for the reorganisation of secondary education along comprehensive lines are well advanced. Four authorities' schemes have been accepted and proposals for the remainder are under consideration by the Department of Education and Science or are still being formulated locally. A common difficulty in the predominantly rural area is in organising schools of viable size without imposing impossibly long journeys on the pupils. Full implementation of the local education authorities' plans is likely to take some time, because no additional resources are available for new school building solely for secondary reorganisation.

516. As in the primary sector, most local education authorities are undertaking experimental work designed to keep secondary school curricula in tune with up-to-date ideas, and some schools are already earmarked to take part in trials of the Nuffield Secondary Science Project. A few schools are experimenting with work experience for their fifth-year pupils, and in some parts of the region the increasing involvement of the Youth Employment Service in the career decisions of the older pupils is to be welcomed. An encouraging sign also is the good co-operation which exists between many schools and the colleges of further education.

517. The provision of secondary education by independent and direct grant schools is not insignificant, though there are proportionately fewer of them than in other regions in the south. The region contains two of the few maintained boarding schools in the country.

518. A disturbing feature of secondary education is the extent to which the region lags behind the national average in the proportion of pupils staying on at school beyond the school leaving age (see Table 52): a larger proportion of pupils

TABLE 52

Percentage of pupils staying on at maintained schools beyond the statutory school leaving age*

Age	January 1950	January 1967	Increases in percentages 1960-67
16	25.3 (34.4)	30.7 (46.8)	13.4 (12.2)
16	12.9 (17.2)	21.0 (26.8)	6.1 (9.3)
17	8.6 (8.6)	10.1 (13.7)	3.3 (5.2)
18	2.2 (3.0)	3.3 (4.6)	1.1 (1.8)
19	0.3 (0.3)	0.2 (0.4)	Nil—(decrease (0.1) of 0.1)

*Figures in brackets show national averages.

do not complete their fourth year of secondary education and leave school without gaining any formal qualification. Therefore, when the school leaving age is raised to 16 in 1972-73, a higher proportion of additional school places will be needed than in other areas. Generally, the implications of this problem are recognised by local education authorities, and several schools are experimenting with courses likely to interest and benefit pupils not of an academic turn of mind. 519. The examination successes of pupils who left school during 1965-66 are shown in Table 53. This shows that the proportions of school leavers gaining various levels of GCE qualifications were significantly lower at all points than the corresponding national figures. This suggests that in East Anglia early leaving is not confined to the less able pupils.

520. The grades obtained by candidates in the new CSE examination system in the East Anglia Examination Board area* are generally in line with those obtained in the rest of England and Wales. In the 1967 examination the number of candidates/subjects amounted to 30,666, and in only 9 per cent of entries was it impossible to award one of the five grades of achievement. As in other parts of the country there has been a tendency to attach too much importance to the gaining of grade 1 passes in the CSE examination. This is understandable since the grade is accepted by most places of higher education, professional bodies and employers as the equivalent of a pass at 'O' level in the GCE examination, but the examination was designed primarily to meet the needs of candidates unable to face the more restricted and academic syllabus of the GCE examination, and its purpose is in some danger of defeat unless grades other than the highest

secure a greater measure of acceptance by employers and places of further education.

Nursery education

521. Since the second world war there has been a virtual embargo on the establishment of new State nursery schools and classes in all parts of the country, largely because of the shortage of building resources and qualified teaching staff. A considerable expansion of nursery provision would be highly desirable.

Further education

522. The co-ordination of further education in the region is largely the concern of the East Anglia Regional Advisory Council for Further Education, whose chief functions are to ascertain the needs of industry and commerce for vocational education and to advise local education authorities so that the necessary provision can be made with the greatest efficiency and without duplication of effort. The Council covers the northern parts of Bedfordshire, Essex and Hertfordshire, in addition to the East Anglia Economic Planning Region, and provision is planned in the context of this larger area. The arrangements provide for free interchange of students between authorities on all advanced courses.

523. There are 18 colleges of further education in the Economic Planning Region. Five are specifically for agricultural education and another four specialise in art. The remaining colleges provide the normal range of technical and commercial courses at the various levels, though some also provide courses in agriculture and art. Of the general colleges the four at Peterborough, Cambridge, Norwich and Ipswich are area colleges and provide the bulk of the higher level courses for full-time and sandwich students and a wider range of all types of courses at advanced level.

*The area covered by the East Anglia Examination Board includes Bedfordshire and no separate statistics are available for the Economic Planning Region.

TABLE 53

Estimated GCE achievements of school leavers during the academic year 1965-66*

1000

	East Anglia			England and Wales		
	Boys	Girls	Total	Boys	Girls	Total
Leavers with no 'A' level passes No. of 'O' level passes						
0	6.02	6.28	13.12	188.86	185.86	367.61
1	0.38	0.55	0.83	15.83	18.24	31.17
2	0.35	0.34	0.70	11.71	13.04	24.75
3	0.31	0.34	0.65	10.70	11.12	21.82
4	0.37	0.28	0.63	10.44	10.24	20.67
5 or more	0.67	0.81	1.65	22.61	28.88	61.61
Total	9.12	8.99	17.71	270.44	267.89	630.02
Leavers with the following number of 'A' level passes:						
1	0.28	0.28	0.53	8.88	8.68	17.64
2	0.37	0.43	0.80	12.80	11.68	24.48
3	0.77	0.26	1.03	22.66	13.17	36.84
4 or more	0.08	0.01	0.10	8.63	1.49	7.32
Total	1.50	0.98	2.48	65.36	34.80	98.18
Percentage of all leavers with: 2 or more 'A' level passes	11.6	7.3	9.6	12.8	8.7	10.8
1 or more 'A' level passes	14.1	10.0	12.2	15.7	11.6	13.7
At least 8 'O' level passes and/or at least 1 'A' level pass	22.3	18.4	20.6	22.6	21.1	22.0
Percentage of all leavers going to full-time further education	18.9	18.5	19.1	18.8	19.1	17.8

*Leavers from independent schools not recognised as efficient and from special schools are excluded. The figures in this Table are based on a sample of approximately 10 per cent of leavers. They are subject to sampling errors and the final digit is never significant. It has, however, been retained for convenience of presentation.

524. The general pattern of provision in the region, as elsewhere, should be one of local colleges providing a broad range of non-advanced courses and feeding into larger (area) colleges established in the major population centres, which should be responsible for providing the bulk of the advanced level courses. But the difficulties of communication and the distances involved in East Anglia often inhibit plans for rationalisation, particularly of part-time and evening courses. In the more rural parts smaller colleges have to provide a whole range of work catering for both the day-release craft worker and the Higher National and degree student. The solution of this problem is to move away from part-time and evening courses in favour of short periods of full-time study (block release), and courses for many of the crafts and professions are moving in this direction. At this stage it is difficult to be precise, since the pattern varies by area and by trade; the initial move comes sometimes from the college and sometimes from industry. The changeover raises problems, since it involves modifications in the loading of the teaching services and gives rise to a need for properly supervised hostels or lodgings for young people.

525. All colleges in East Anglia maintain a close liaison with local industry. The governing bodies

are representative of local industrial and commercial interests, and most colleges have specialist advisory committees to assist in planning course policy. Local firms sometimes provide equipment (or money for equipment) and accommodation for teaching.

526. Specialist short courses are run at all levels to suit the needs of apprentices and of established employees. Some are part-time and spread over a fairly long period; others are short full-time courses. They range from marketing, management, foreign languages and quicker feeding to purely technical short courses.

527. Nearly all firms co-operate with the college staff in the complex business of selecting the right courses. Indeed, some college staff are asked to help with the selection of new entrants to firms and to advise on suitable placing of apprentices.

528. Appendix 26 shows the numbers and proportions of students taking different types of courses; these are based on returns from colleges and do not necessarily include all students from the region taking further education courses. They tend, however, to show that, except in the case of full-time courses for the younger age-range, the region lags behind the national average to a quite significant extent.

529. The list of polytechnics suggested for designation by the Secretary of State for Education and Science does not include one in the Economic Planning Region. The nearest are at Hatfield in Hertfordshire and in East London, where it has been suggested that a polytechnic should be formed by the amalgamation of the technical colleges of three London boroughs.

Colleges of education

530. There are two voluntary colleges of education for the training of teachers at Cambridge and at Norwich, with an annex in East Suffolk, with a total of 1,112 students. The proportion of students from East Anglia training as teachers is below the national average, and this may partly account for the difficulty in recruiting teachers, since students tend to return home to take up teaching appointments.

Universities

531. There are two universities in East Anglia—Cambridge University and the University of East Anglia at Norwich. The University of Essex at Colchester is likely to have some influence on the region. Contacts between the research departments of the universities and industry are not widely established and there is a good deal of scope for development of closer relations.

532. Numbers of students at the universities in the region are rising. At the beginning of the academic year 1967–68 there were 10,317 students at Cambridge (9,163 men and 1,154 women), of whom 2,161 were following post-graduate courses. At East Anglia there were 1,738 students (1,074 men and 662 women), including 183 post-graduates. The University Grants Committee's recommendations for 1971–72 are 10,260 for Cambridge (9,145 undergraduates and 2,115 post-graduates) and 2,785 for East Anglia (2,540 undergraduates and 245 post-graduates).

Careers guidance

533. The Youth Employment Service is administered locally by the education authorities and by the Department of Employment and Productivity. Through this service children and their parents are able to obtain vocational guidance and help in obtaining their first employment. Co-operation between career advisers and those responsible for careers work in the schools is generally good and is developing further. In some parts of the region there is a shortage of sufficient jobs offering adequate training and opportunities for advancement, but the proportion of long-term unemployment among young people is low. The character of the first employment of young persons under 18 years of age is set out at Table 54.

Youth services

534. The youth services are currently providing facilities for the leisure time of 180,000 young people aged 14–20. Perhaps one-third of these are members of clubs, uniformed organisations and specialist groups, but many younger children also join these various units. Since the publication of the Albemarle Report in 1960* over £1 million has been spent in providing an increasing number of towns in East Anglia with a new centre with paid leadership. Full-time leaders, however, are still scarce, and many of the rural areas are normally served by small clubs with voluntary leaders.

535. The East Anglia Regional Advisory Council for Further Education is active in the youth field to an unusual degree. With advice from a joint regional training committee for the youth service, the Council arranges many advanced and specialised courses for youth leaders, helpers and youth officers.

*Youth Service in England and Wales.
Omsd. 928. HMSO 1960.

TABLE 54
First employment of young persons under 18,
Jan.-Sept. 1967

Category	Boys		Girls	
	East Anglia Planning Region %	GB %	East Anglia Planning Region %	GB %
Apprenticeships	41.2	43.4	7.6	7.4
Leading to professional qualifications	1.0	1.1	1.8	1.8
Clerical	5.5	9.0	35.8	37.9
Training of at least 12 months	8.8	9.1	4.9	4.7
Training of at least 5 weeks but less than 12 months	5.3	4.9	7.8	9.6
Other	38.3	34.8	42.0	38.8

Adult education

536. In addition to courses provided by Cambridge University Board of Extra-Mural Studies and by the WEA (Eastern District), adult centres of various kinds are intended to meet the more informal but no less important further education needs of the community. Schools, including some

designed for community use, e.g. the Cambridge-shire Village Colleges, usually house these classes and other activities, which attract a steadily increasing number of students. Increasingly, too, authorities are appointing full-time workers in further education of this more informal kind.

Hospital services

537. Good progress is being made towards remedying deficiencies in both the quality and quantity of hospital provision. There is a general shortage of acute and maternity beds, and many hospitals are deficient in out-patient and diagnostic facilities. While the number of beds is not an entirely reliable guide to the extent of hospital provision, in 1968 there were 4,503 acute beds, representing 2.6 beds per thousand population compared with 3.6 per thousand nationally. There were 537 maternity beds, or 0.36 beds per thousand population compared with 0.45 per thousand nationally. Great importance is attached to remedying the deficiencies of acute and maternity beds and supporting facilities. There were 2,476 geriatric beds, or 11.1 beds per thousand persons aged 65 and over compared with 10.0 per thousand nationally, and 4,832 mental illness beds, or 2.9 beds per thousand population, which is the same as the national ratio. The policy for these last two groups is to modernise, to provide acute units in district general hospitals as they are built, and day hospitals. There is a need for more mental subnormality beds, of which there were 1,558, or 1.0 beds per thousand population compared with 1.3 nationally.

538. The standards of provision for planning purposes are:

Acute beds	a maximum of 3.3 per 1,000 population
Maternity beds	equivalent to 0.58 beds per 1,000 population related to 1975
Geriatric beds	10 per 1,000 persons aged 65 and over
Mental illness beds	reducing to 1.8 per 1,000 population by 1975
Mental subnormality beds	1.3 per 1,000 population

These ratios are only broad guides which often need to be amended in the light of regional and local variations.

539. Addenbrooke's Hospital, which will continue as a teaching hospital and will provide a district service for Cambridge and the surrounding area, is

being re-developed on a new site. Phase II (424 acute beds with associated laboratory and research facilities, out-patient department and artificial limb and appliance centre, costing over £12 million) of the new hospital is now in progress. A new maternity unit (135 beds) at the Norfolk and Norwich Hospital has recently been completed and further developments are under way. A new maternity unit at Northgate Hospital, Great Yarmouth, is nearing completion. Other major hospital building schemes in progress include Phase II (administrative building, residential staff accommodation, kitchen and dining-room) of a new mental subnormality hospital, the Ida Darwin Hospital at Fulbourn; the first phase of the new District General Hospital for Ipswich; and Phase II (main ward block, out-patient and accident departments) of the redevelopment of Peterborough Memorial Hospital (260 acute beds, 20 geriatric beds, 50 mental illness beds).

540. It is hoped to start within the period up to 1969-70 the new District General Hospital for Bury St. Edmunds, Phase I of the new District General Hospital for King's Lynn; Phase III (hospital units—16 beds, 3 wards—120 beds, laboratory and research unit and training and rehabilitation unit) of the Ida Darwin Hospital, Fulbourn; and a new maternity unit and Phase III (31 acute beds, 10 psychiatric beds, 86 geriatric beds) of the redevelopment of the Peterborough Memorial Hospital. Planning is in progress on a number of major schemes which it is hoped to start subsequent to these developments. The programme includes improvements to many existing hospitals.

Local authority health and welfare services

541. The most recently published plans of the eight local health and welfare authorities in the region are set out in the White Paper *Health and Welfare: the Development of Community Care* (Cmd. 3022*). The authorities plan the services—in consultation with hospital authorities and with executive councils—on the basis of their own assessment of the local needs for particular services, and in the context of the general levels

TABLE 55**Existing and planned health and welfare services***

	31.12.1967	31.3.1978†
Maternity, child welfare clinics and health centres	410	385
Day nurseries	3	3
Pieces in training centres for mentally subnormal	1,305	1,852
No. of pieces per 1,000 population	0.68 (0.67)	1.14 (1.19)
Pieces in hostels for mentally subnormal	85	217
No. of pieces per 1,000 population	0.04 (0.07)	0.13 (0.22)
Pieces in homes for persons aged 65 and over	3,784	5,884
No. per 1,000 population 65 and over	17.88 (16.7)	24.1 (21.7)
	31.8.1967‡	31.12.1976
Midwives, health visitors, home nurses and supervisory staff	678	807
No. per 1,000 population	0.36 (0.41)	0.56 (0.81)
Mental health social workers	48	62
No. per 1,000 population	0.03 (0.04)	0.04 (0.06)
Social workers other than mental health	96	112
No. per 1,000 population	0.06 (0.07)	0.07 (0.07)

*Figures in brackets are for England and Wales.

†Figures for 1979 extracted from Cmed. 3033.

‡Figures for 1967 extracted from returns by local authorities to the Ministry of Health.

of services over the country as a whole. As with hospitals, the general aim is that of a common satisfactory standard of service, but because of national economic circumstances the amount of capital investment has fallen short of that included in local authorities' plans. Nevertheless, annual capital investment has been increasing and it is hoped that this will continue. Table 55 indicates the present position and the shape of local authority plans within the region.

Executive council services

542. In 1967 the overall average list size for general medical practitioners in the region was 2,289 patients, compared with an average for

England and Wales of 2,472 patients. Thus, by national standards, the region is marginally well supplied with doctors. For dentists, the situation is somewhat different, the number of persons per dentist averaging 5,866, compared with an average for England and Wales of 4,600.

Manpower

543. The numbers of staff in the medical and dental services (Department of Employment and Productivity Minimum List Heading 674) are 21,000 for East Anglia and 755,000 for England and Wales, a home population to staff ratio of 74:1 for East Anglia and 63:1 for England and Wales.

13 Problems of Areas with Lack of Economic Growth

544. The Council has made an examination of the economic characteristics of two sample areas, one with above average unemployment and one with a history of net outwards migration, and it believes that the problems of these areas are illustrative of the kinds of problem that may exist in other parts of the region.

545. The sample area chosen are north Norfolk and the Isle of Ely. The north Norfolk area stretches some 50 miles eastwards from the Wash, including some 12 miles of the coastal hinterland. It has a basic civilian population of about 86,000 and the main towns are Hunstanton, Cromer, Sheringham, Fakenham and North Walsham. The Isle of Ely, in the northern part of the County of Cambridgeshire and the Isle of Ely, is a Fenland area some 27 miles by 12 miles, stretching from Wisbech to Ely. Other towns are March and Chatteris and the civilian population is about 78,000*.

Employment structure and change

546. In both areas there were, in 1966, about 27

per cent employed in agriculture, as compared with 10 per cent in the region as a whole. The 47 per cent employed in services was similar to the regional average, but there were fewer employed in manufacturing, about 17 per cent as compared with 32 per cent (see Table 56).

547. During 1960-66 both areas experienced marginal overall employment growth. This, however, was due to a net increase in female jobs (+20 per cent in north Norfolk, +13 per cent in Isle of Ely), and male jobs declined in both areas, by 7 per cent and 3 per cent respectively. Male jobs declined principally in agriculture, by about 1,800 jobs in each area. Although there were partially offsetting increases in the manufacturing and construction sectors, there was, over the six-year period, a net decline of about 600 male jobs in Isle of Ely and 1,400 male jobs in north Norfolk.

*North Norfolk was defined as the following local authorities: Hunstanton UD, Snettisham UD, Walsingham RD, Eppleham RD, Sheringham UD, Cromer UD, Great Yarmouth UD and North Walsham UD. Isle of Ely was defined as Wisbech ME, Wisbech RD, March UD, North Walsham RD, Chatteris UD, Ely RD and Ely UD. For definitions of these areas see Figure 5.

TABLE 56

Employment structure and change, Isle of Ely, North Norfolk and East Anglia 1960-66

Selected SIC Orders	Isle of Ely		North Norfolk		East Anglia	
	1960 %	1966 %	1960 %	1966 %	1960 %	1966 %
Extractive	33	26	38	28	14	11
Agriculture	32	20	38	28	14	10
Manufacturing	16	18	10	16	30	32
Food, Drink, Tobacco	6	7	6	7	6	7
Engineering and Electricity	1	2	1	2	0	9
Construction	5	8	8	9	6	9
Services	46	47	47	47	47	48
Transport and Communications	10	8	3	3	6	6
Distributive Trades	12	14	12	12	13	12
Professional and Scientific Services	8	10	10	11	11	12
Miscellaneous Services	—	—	16	16	10	10
Public Administration	—	—	6	4	6	4
Total numbers	28,000	28,000	27,000	27,000	617,000	680,000

Source: Department of Employment and Productivity.

TABLE 57**Seasonal unemployment, North Norfolk, Isle of Ely and East Anglia**

	January 1966		July 1966	
	%	Number	%	Number
North Norfolk				
Males	5.2	693	3.2	548
Females	1.2	124	0.8	85
Total	3.7	1,017	2.2	603
Isle of Ely				
Males	2.4	485	1.1	215
Females	1.1	117	0.8	66
Total	2.0	572	0.9	270
East Anglia				
Males	1.8	6,975	1.2	4,696
Females	0.7	1,381	0.4	804
Total	1.4	6,396	0.8	5,610

Source: Department of Employment and Productivity.

In comparison with the sub-divisions and the region, both areas had considerably less industrial development certificate building completions measured against population.

Unemployment

548. In north Norfolk unemployment rates have been persistently above the regional average for a number of years, while in the Isle of Ely they have been similar to the regional average. In both areas the seasonal fluctuation of rates has been wider than those of the region, a reflection of the importance of agriculture and service employment in the sub-regional economy. Table 57 illustrates the unemployment situation in January and July 1966, a period of high labour demand in the national economy. Unemployment rates are only an approximate indication of the size of the labour reserve in an area and we have, therefore, calculated labour reserve rates (for October 1967) of 0.9 per cent in north Norfolk and 0.7 in Isle of Ely, which compare with 0.6 per cent for the region. The labour reserve rate in north Norfolk is thus significantly higher than the regional rate.

549. In both areas the absolute numbers unemployed are relatively small, and the labour reserve element amounts to no more than a few hundred in each. Nevertheless, for small isolated communities this represents a significant problem, because alternative opportunities are not readily available.

Population

550. Over the fifteen-year period 1951-66, the main characteristics of both areas were marginal increases in basic civilian population, together with some net outward migration. In north Norfolk there was slight net outward migration between 1951 and 1961, but this trend was reversed between 1961 and 1966, when there was a small inflow. The absence of population growth by natural change in the period 1961-66 is primarily attributable to death rates. (See Table 56.) People of retirement age form a significantly higher proportion of the population in north Norfolk than in the region. In Isle of Ely there was considerable net outward migration during 1961-61, and this trend continued between 1961 and

TABLE 58**Population change, North Norfolk, Isle of Ely and East Anglia 1961-66***

	1961 population No.	Change 1961-66			1966 population No.
		Total %	Natural %	Net migration %	
North Norfolk	68,000	+ 0.5	Slight decrease	+ 0.5	68,000
Isle of Ely	77,000	+ 1.0	+ 2.3	- 1.3	76,000
East Anglia	1,408,000	+ 7.0	+ 2.7	+ 4.3	1,504,000

*Basic civilian population

1966, though at a lesser rate. The rate of natural increase has been slightly less than the regional average. The age distribution of the population is fairly typical.

Travel to work

551. One of the probable effects of a decline in employment opportunities in an area is a growth of long distance outward commuting. Over the period 1951-65 the employment deficit (the job gap) increased in both areas, resulting in a comparable increase in outward commuting. From north Norfolk net outward journeys increased from about 850 to 3,200, mainly to Norwich and King's Lynn. From the Isle of Ely net outward journeys increased from about 150 to 800, mainly to Cambridge and Peterborough. Distances travelled are substantial and often average about 20 miles each way.

Infrastructure

552. Housing, in both areas the quality of housing in terms of basic amenities is generally below the regional average. In north Norfolk the towns are above the average for England and Wales, but the rural areas are among the worst in the country. In the Isle of Ely, towns as well as rural areas are below the regional average.

553. Communications. In both areas communications are poor; roads are often narrow and tortuous, particularly along the coast and across the Fen. In north Norfolk all the remaining rail services are threatened with closure, and in the Isle of Ely the area around Wisbech will not have a service if current proposals are carried through. It is significant that all the rail services which it is proposed to close link the areas with towns to which there has been a recent commuter growth. 554. Earnings. No data are available specifically for these small areas; but it is likely that male earnings are below the Norfolk average, which is 7 per cent below the East Angles average, which is in turn 8 per cent below the Great Britain average.

Conclusion

555. Both areas have experienced a decline in male jobs brought about by the contraction in agricultural employment. Further, demand is currently weak in the clerical and service fields. The decline in agricultural employment can be expected to continue for some time, and it is likely that, unless measures are taken to improve the opportunities for employment growth, the trends of unemployment, population stagnation, growth of long-distance commuting and low earnings will also continue.

East Anglia sub-divisions: constituent areas

Sub-division	Equivalent local authority areas	Nearest equivalent employment exchange areas
NORTH EAST	<p>Norfolk (part)</p> <p><i>County Boroughs</i> Great Yarmouth Norwich</p> <p><i>Municipal Borough</i> Thetford</p> <p><i>Urban Districts</i> Cromer; Diss; East Dereham; North Walsham; Sheringham; Swaffham; Wells-next-the-Sea; Wymondham</p> <p><i>Rural Districts</i> Bloxfield and Flegg; Dapwode; Erpingham; Forehoe and Hasleade; Loddon; Melford and Leunditch; St. Felix's and Ayleham; Smallburgh; Swaffham; Walsingham; Weyland</p> <p>Suffolk, East (part)</p> <p><i>Municipal Boroughs</i> Lowestoft; Southwold; Bacton</p> <p><i>Urban Districts</i> Bungay; Halesworth</p> <p><i>Rural Districts</i> Lothingland; Wainford</p>	<p>Ayleham Bacton Bungay Cromer/Holt Dereham Fakenham/Wells-next-the-Sea Great Yarmouth Haleston Lowestoft North Walsham Norwich/Wroxham/ Loddon/Acle Southwold/Halesworth Swaffham Thetford/Brandon Wymondham/Aisleborough</p>
NORTH WEST	<p>Cambridgeshire and Isle of Ely (part)</p> <p><i>Municipal Borough</i> Wisbech</p> <p><i>Urban Districts</i> Chatteris; March; Whittlesey</p> <p><i>Rural Districts</i> North Wisbechford; Wisbech</p> <p>Huntingdon and Peterborough (part)</p> <p><i>Municipal Borough</i> Peterborough</p> <p><i>Urban Districts</i> Old Fenton; Ramsey</p> <p><i>Rural Districts</i> Barnack; Huntingdon; Norman Cross; Peterborough; Thorney</p> <p>Norfolk (part)</p> <p><i>Municipal Borough</i> King's Lynn</p> <p><i>Urban Districts</i> Downham Market; Hunstanton</p> <p><i>Rural Districts</i> Deking; Downham; Freebridge Lynn; Marshland</p>	<p>Chatteris Downham Market/Stoke New Hunstanton King's Lynn March Peterborough Wisbech</p>

Sub-division	Equivalent local authority areas	Nearest equivalent employment exchange areas
SOUTH EAST	<p>Suffolk East (part)</p> <p><i>County Borough</i> Ipswich</p> <p><i>Municipal Boroughs</i> Aldborough; Eye</p> <p><i>Urban Districts</i> Felstead; Lelham-cum-Sizwell; Seamundham; Stowmarket; Woodbridge</p> <p><i>Rural Districts</i> Blyth; Deben; Gipping; Hertsmere; Safford</p> <p>Suffolk West (part)</p> <p><i>Municipal Boroughs</i> Bury St. Edmunds; Sudbury</p> <p><i>Urban District</i> Hedleigh</p> <p><i>Rural Districts</i> Coxford; Milford; Thedwestre; Thingoe</p>	<p>Bury St. Edmunds/Mildenhall Diss/Eye Felstead Ipswich Lewes Stowmarket Sudbury Woodbridge</p>
SOUTH WEST	<p>Cambridgeshire and Isle of Ely (part)</p> <p><i>Municipal Borough</i> Cambridge</p> <p><i>Urban District</i> Ely</p> <p><i>Rural Districts</i> Chatterton; Ely; Newmarket; South Cambridgeshire</p> <p>Huntingdon and Peterborough (part)</p> <p><i>Municipal Boroughs</i> Huntingdon and Godminchester; St. Ives</p> <p><i>Urban District</i> St. Neots</p> <p><i>Rural Districts</i> St. Ives; St. Neots</p> <p>Suffolk West (part)</p> <p><i>Urban Districts</i> Haverhill; Newmarket</p> <p><i>Rural Districts</i> Clare; Mildenhall</p>	<p>Cambridge Ely Haverhill Huntingdon/St. Ives Newmarket St. Neots</p>

East Anglia: population of sub-divisions

Area

1987 Home population

All areas	1,811,910
North East sub-division	578,430
North West sub-division	304,700
South East sub-division	377,630
South West sub-division	352,150

North East sub-division

Constituent area	1987 Home population	Constituent area	1987 Home population
All areas	578,430	Porchester and Haverhill RD	31,200
Norfolk (part)	484,060	Loddon RD	13,130
Great Yarmouth CG	51,910	Mifford and Lunditch RD	17,730
Norwich CB	118,810	St. Felix's and Ayleham	84,180
Thetford MB	10,400	Smallburgh RD	17,840
Comar UD	4,370	Swaffham RD	10,410
Disa UD	4,280	Walsingham RD	18,380
East Dersham UD	8,080	Wayland RD	20,680
North Walsham UD	5,370	Suffolk East (part)	82,370
Sheringham UD	4,970	Bacine M6	7,880
Swaffham UD	3,870	Lowestoft M6	48,160
Wells-next-the-Sea UD	2,480	Southwold MB	2,140
Wymondham UD	6,780	Bungay UD	3,610
Gillofield and Flagg RD	41,130	Halesworth UD	2,760
Dapwode RD	18,080	Lothingland RD	18,870
Epingham RD	18,670	Wainford RD	8,780

North West sub-division

Constituent area	1987 Home population	Constituent area	1987 Home population
All areas	304,700	Barnack RD	8,870
Cambridgeshire and Isle of Ely (part)	83,870	Huntingdon RD	18,880
Walsby MB	17,410	Norman Cross RD	11,410
Chatteris UD	8,820	Peterborough RD	8,280
March UD	13,410	Thorney RD	2,600
Whittlesey UD	8,800	Norfolk (part)	108,830
North Witchford RD	4,580	King's Lynn M4	28,370
Walsby RD	13,170	Downham Market UD	3,320
Huntingdon and Peterborough (part)	130,600	Hunstanton UD	4,200
Peterborough MB	68,100	Doering RD	18,180
Old Fletton UD	13,040	Downham RD	28,210
Ramsay UD	5,820	Frederick Lynn RD	12,880
		Marshland RD	17,880

South East sub-division

Constituent area	1987 Home population	Constituent area	1987 Home population
All areas	377,630	Gipping RD	23,800
Suffolk East (part)	283,820	Hardwens RD	18,180
Ipswich CG	121,870	Sanford RD	18,880
Aldburgh MB	3,100	Suffolk West (part)	83,810
Eye MB	1,640	Bury St. Edmunds M6	24,280
Felixstowe UD	18,480	Sudbury MB	7,080
Laleton-cum-Bloxwell UD	4,880	Hadleigh UD	4,840
Seaxmundham UD	1,600	Conford RD	5,180
Stowmarket UD	8,180	Melford RD	17,280
Woodbridge UD	8,840	Thedwastre RD	8,880
Blyth RD	18,080	Thingoe RD	21,830
Deben RD	37,700		

South West sub-division

Constituent area	1987 Home population	Constituent area	1987 Home population
All areas	353,150	Huntingdon and Godmanchester MB	14,780
Cambridgeshire and Isle of Ely (part)	332,960	St. Ives MB	8,170
Cambridge MB	100,340	St. Neots UD	11,900
Ely UD	10,030	St. Neots RD	17,630
Chatterton RD	60,600	St. Neots RD	5,100
Ely RD	14,790	Suffolk West (part)	61,430
Newmarket RD	22,810	Heverhill UD	10,300
South Cambridgeshire RD	39,020	Newmarket UD	11,840
Huntingdon and Peterborough (part)	69,760	Mildenhall RD	28,930

Source: General Register Office mid-year estimate

Travel to work—areas of dependency: commentary on Map 3 (in pocket)

1. Map 3, and Table 3A, are based on the numbers of people travelling to work daily from local authority areas into the four major and three minor urban centres. These travel-to-work movements from any one local authority area are related to the total economically active population of that area, and the percentage relationship is described as the degree of 'dependency' of the area on the centre for employment.

2. Some of the more important conclusions that can be drawn from the maps are mentioned below.

Map A. Travel-to-work to the four major urban centres 1966

3. There is no significant 'labour market' connection between the four major centres: fewer than one hundred persons travelled daily for work from any one centre to any other.

4. There is no overlap of local authorities until one gets well below the '5 per cent dependency' shown in Map A. The labour catchment areas of the four centres are therefore clearly defined.

5. Large areas of the region lie outside the '5 per cent dependency' labour catchment areas of the four centres.

6. One measure of 'significant dependency' adapted from American practice by British research workers* is the Standard Metropolitan Labour Area (SMLA): the catchment area consisting of local authority areas contributing 15 per cent or more of their economically active population to the employment centre. This '15 per cent dependency' proves to be of significance in East Anglia, with by far the greater part of the volume of commuting into the centres covered by it and with a sharp gradient from about 15 per cent to the next echelon of local authority areas at under 10 per cent. Map C shows that a ten-mile radius around each major and minor centre embraces almost the whole of the '15 per cent dependency area'. This is even truer when it is remembered that the use of local authority boundaries exaggerates the actual geographical extent of commuting in all cases, and only rough corrections can be made in the absence of parish travel-to-work data. Map A also shows that 15-mile radii around the major centres cover the greater part of the '5 per cent dependency'.

Map B. Widening area of dependency on four major urban centres 1951-66

7. The '5 per cent dependency' did not spread dramatically in terms of additional local authority areas in the years 1951-66 (see Table 3A), even though that period was marked by an unprecedented growth in the ownership of private cars. Ipswich 'added' no contiguous areas; Norwich 'added' six authorities; Cambridge four and Peterborough four. However, at the same time, Table 3A also shows that many of the authorities already contributing 5 per cent or more of their economically active population in 1951 increased that proportion substantially in the years to 1966.

Map C. Travel to work to four major urban centres and three minor centres 1966

8. As noted above in the comments on Map A, the four major centres were distinct in labour market terms. This is almost as true of the three minor centres, even though they occupy intermediate geographical positions and are therefore closer to the major centres. Map C shows that in relation to the '15 per cent dependency', the only overlap is on Blifield and Flegg between Norwich and Great Yarmouth/Lowestoft. Table 3A brings out that this in fact holds true for the '5 per cent dependency', with not a single additional overlap.

9. There is little exchange of labour between the four major centres and the three minor centres: Bury St. Edmunds, for example, contributes fewer than 60 persons to Ipswich each day to work, and fewer than 30 travel to work in the opposite direction.

Map D. Urban authorities contributing 5% or more of their economically active population or 100 or more persons to the seven urban centres 1966

10. A very large part of all commuting into the seven centres originates in the suburbs and villages only just over the local authority boundary line, but is credited to the rural districts which on the map spread out up to 15 miles from the urban centre. In order to eliminate this distortion, Map D identifies only the links with the free-standing urban areas of the region.

11. No other urban area, it can be seen, sends

*Royal Commission on Local Government Research Studies I, 1960, para 15, paragraph 65.

either 5 per cent of its economically active population or more than a hundred persons in two or more directions. Also, on the same criteria, many urban areas have no significant link with any of the seven urban centres.

Travel-to-work from outside the region
12. This is particularly significant in relation to Peterborough with over 20 per cent (3,000

persons) of its inward commuting coming from Lincolnshire (2,400) and Northamptonshire (600). For Cambridge it is 5 per cent, or 800 persons, from Hertfordshire, Essex and Bedfordshire. Ipswich has 4 per cent or 500 persons from Essex, of whom around 200 are from Colchester (a stronger connection then with Bury St. Edmunds). King's Lynn has 1 per cent of its commuter hinterland in Lincolnshire.

Local authorities contributing 5 per cent or more of their economically active population in 1966 to other boroughs*

Contributing authority	Miles to centre (min.-max.)	1951			1966		
		Census enumerated population '000	% of economically active population	No. '000	Census enumerated population '000	% of economically active population	No. '000
Norwich CB							
Bungay UD	13-15	3.8	6	0.1	3.8	6	0.1
East Dereham UD	12-17	5.4	2	0.1	5.1	7	0.2
North Walsham UD	13-15	4.7	7	0.1	5.6	10	0.2
Sheringham UD	21-23	4.8	3	0.1	4.2	5	0.1
Wymondham UD	6-11	5.7	12	0.3	5.9	19	0.6
Stofield and Flagg RD	2-10	32.1	25	3.1	38.4	31	6.1
Daywade RD	7-20	18.2	7	0.5	17.8	9	0.7
Erpingham RD	12-25	18.4	2	0.1	18.2	5	0.5
Forehoe and Hensted RD	2-15	23.4	35	3.4	30.1	47	5.3
Loddon RD	6-19	12.5	9	0.5	13.1	19	1.1
Wiford and Launditch RD	8-25	18.1	2	0.1	18.4	5	0.4
St. Faith's and Aylham RD	2-17	37.5	34	5.5	53.4	50	12.3
Smallburgh RD	5-15	18.4	4	0.4	17.1	9	0.7
Ipswich CB							
Felixstowe UD	8-11	15.1	12	0.7	18.0	14	1.0
Hadleigh UD	5-11	3.1	10	0.1	4.4	18	0.4
Helesworth UD	23-25	2.2	—	—	2.7	5	0.1
Woodbridge UD	5-7	5.3	10	0.2	5.3	15	0.4
Deben RD	2-20	25.4	19	2.1	34.9	25	4.2
Gipping RD	2-15	18.1	15	1.3	22.7	20	1.8
Samford RD	2-10	15.2	17	1.2	15.1	22	1.7
Cambridge MB							
Ely UD	13-20	10.0	3	0.2	9.7	7	0.3
Newmarket UD	10-13	10.2	4	0.2	11.5	7	0.4
St. Ives MB	12-15	3.1	2	—	5.0	5	0.1
Chesterton RD	2-15	38.5	25	4.4	45.3	42	8.1
Ely RD	8-22	14.7	2	0.1	14.4	9	0.5
Newmarket RD	5-15	20.2	10	0.8	22.5	15	1.8
South Cambridgeshire RD	4-17	25.5	9	1.0	32.7	15	2.2
Peterborough MB							
Old Fletton UD	2-4	8.0	44	2.0	13.0	45	2.5
Ramsey UD	7-13	8.8	7	0.2	5.3	5	0.1
Whitlsey UD	3-10	5.5	15	0.5	10.1	28	1.3
Barnack RD	5-12	3.1	4	0.1	5.4	7	0.2
Norman Cross RD	2-10	5.5	21	0.9	8.5	41	1.5
Peterborough RD	3-8	7.3	42	1.3	5.8	53	2.1
Thorney RD	2-11	2.4	11	0.1	2.4	24	0.2
Wisbech RD	10-21	12.4	1	0.1	13.2	5	0.3
Great Yarmouth CB							
Stofield and Flagg RD	1-18	32.1	12	1.5	38.4	18	3.2
Lothingland RD	1-20	14.7	8	0.5	18.2	25	2.1
Lowestoft MB							
Seccles MB	5-7	5.8	3	0.1	7.4	7	0.2
Lothingland RD	1-12	14.7	15	1.1	18.2	25	2.2
Walsford RD	4-15	7.1	2	0.1	5.5	5	0.2
Bury St. Edmunds MB							
Thedwastre RD	4-15	5.8	8	0.3	8.5	19	0.5
Thingoe RD	2-14	17.3	15	1.2	20.9	25	2.7

Contributing authority	Miles to centre (min-max)	1961			1966		
		Census enumerated population '000	% of economically active population	No. '000	Census enumerated population '000	% of economically active population	No. '000
King's Lynn MB	8-10	2.6	3	—	2.9	6	0.1
Downham Market UD	13-18	3.4	6	0.1	3.6	12	0.1
Hunstanton UD	7-22	17.6	6	0.3	16.6	17	1.1
Docking RD	3-22	24.6	2	0.3	22.4	8	0.6
Downham RD	2-14	11.0	18	0.6	12.6	36	2.1
Freebridge Lynn RD	2-18	16.6	8	0.4	16.9	18	1.2

*The 10 per cent sample basis of the 1966 census means that the smaller numbers used in the above analysis are open to a relatively high margin of error. The numbers in this Table have been rounded, but the percentages have been calculated from the primary source data derived from 1961 and 1966 population censuses.

English planning regions: population, area, density 1966 and 1967

Economic planning region	Area in sq. miles	% distribution	Home population '000		Gross density persons per square mile	
			1966	1967	1966	1967
North West	3,083	6.1	6,731.8	6,766.9	2,184	2,191
South East	10,666	21.0	17,071.9	17,188.6	1,617	1,629
West Midlands	6,026	10.0	6,021.4	6,067.4	899	1,008
Yorkshire and Humberside	6,474	10.8	4,732.1	4,792.9	964	674
East Midlands	4,711	9.4	3,286.6	3,286.6	700	700
Northern Region	7,471	14.6	3,316.8	3,329.6	444	446
South West	9,188	16.2	3,616.0	3,662.2	390	399
East Anglia	4,682	9.6	1,682.6	1,611.9	326	332
England	50,333	100	45,374.1	46,690.9	901	906

Source: Registrar General's mid-year estimates of home population.

Home population age/sex structure 1961, 1966 and 1981*

Age/Sex Group	England and Wales	No. '000										Percentage						
		East Anglia	North East sub-division	South East sub-division	South West sub-division	North West sub-division	England and Wales	East Anglia	North East sub-division	South East sub-division	South West sub-division	North West sub-division						
Total																		
1961	46,206.2	1,493.8	540.8	350.2	269.7	289.1	106	100	100	100	100	100	100	100	100	100	100	100
1966	48,076.3	1,582.5	571.1	371.4	343.1	360.9	109	100	100	100	100	100	100	100	100	100	100	100
1981	53,393.0	2,038.1	654.4	503.2	433.3	417.2	109	100	100	100	100	100	100	100	100	100	100	100
Persons																		
1961	10,609.1	337.9	120.3	81.3	67.7	68.6	23.0	22.7	22.3	22.2	21.6	21.9	21.6	21.6	21.6	21.6	21.6	21.6
1966	11,097.1	350.0	123.4	83.6	73.4	69.7	23.6	22.1	21.8	22.9	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4
1981	13,533.0	519.0	163.5	132.5	112.1	110.9	26.4	25.6	25.0	26.3	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
Male																		
1961	14,810.4	490.8	169.8	112.5	110.8	97.5	32.1	33.0	31.4	32.1	35.6	33.7	35.6	35.6	35.6	35.6	35.6	35.6
1966	15,479.8	525.9	179.6	120.6	124.3	101.6	32.2	33.2	31.7	32.5	36.2	33.7	36.2	36.2	36.2	36.2	36.2	36.2
1981	18,402.0	691.3	199.6	167.2	143.2	131.4	30.7	31.4	30.5	31.2	33.0	31.0	33.0	33.0	33.0	33.0	33.0	33.0
1961	2,103.9	78.7	31.2	19.3	14.6	13.7	4.6	5.3	5.8	5.5	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
1966	2,344.6	85.0	33.2	21.0	15.8	15.0	4.7	5.4	5.9	6.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
1981	2,881.0	100.8	35.3	24.7	20.8	20.0	5.3	5.0	5.4	4.9	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Female																		
1961	13,922.4	425.6	156.9	69.3	87.1	82.6	30.1	28.6	29.0	28.4	28.1	28.6	28.1	28.1	28.1	28.1	28.1	28.1
1966	14,157.7	448.1	162.7	104.1	96.1	85.2	29.4	28.3	28.7	28.0	28.6	28.3	28.6	28.6	28.6	28.6	28.6	28.6
1981	14,767.0	503.0	187.1	143.3	118.2	119.4	27.7	28.3	28.8	28.5	27.3	28.6	27.3	27.3	27.3	27.3	27.3	27.3
1961	4,760.4	168.7	82.6	37.8	29.6	26.7	10.3	10.5	11.6	10.8	9.8	9.2	9.8	9.8	9.8	9.8	9.8	9.8
1966	5,136.1	173.5	68.3	42.2	33.6	29.6	10.7	11.0	12.0	11.4	9.8	9.6	9.8	9.8	9.8	9.8	9.8	9.8
1981	5,344.0	183.0	69.0	46.5	38.0	36.5	10.9	9.4	10.8	9.0	8.0	8.5	8.0	8.0	8.0	8.0	8.0	8.0

*Figures are rounded and may add to total.
Source: General Population Census 1961, 1966 and 1981 (based on percentages to 1981).

Mid-year estimated home population and changes 1951-66*

East Anglia Economic Planning Region by sub-divisions

Period/Area	Estimated mid-year home population	Estimated changes					Net civilian migration	
		Total	Natural increase	Changes in armed forces stationed in area	Special factors†	Total	Voluntary	Planned
1951-58								
East Anglia	1,290.6	31.4	28.2	+ 0.6	2.1	0.5	0.5	—
North East	1,421.8	8.6	7.3	- 0.6	0.8	1.1	1.1	—
South East	630.6	9.5	6.7	+ 2.2	0.5	0.1	0.1	—
South West	321.8	5.4	6.3	- 3.3	0.4	2.0	2.0	—
North West	281.6	8.0	8.6	+ 2.4	0.4	- 2.6	- 2.6	—
1958-61								
East Anglia	1,421.8	88.0	38.4	- 3.9	7.9	27.6	28.3	1.3
North East	630.6	19.2	8.6	- 4.1	3.0	2.7	2.7	0.6
South East	321.8	19.0	8.9	—	1.8	8.3	8.3	—
South West	309.7	19.2	9.0	- 2.1	1.6	11.7	10.0	1.7
North West	281.6	19.6	9.9	- 1.9	1.5	6.3	6.3	—
1961-66								
East Anglia	1,489.8	82.7	41.4	- 12.1	2.9	60.5	47.0	13.5
North East	647.1	28.4	8.6	- 4.1	1.4	20.5	17.6	2.9
South East	350.2	21.2	9.4	- 2.2	1.4	12.6	10.2	2.4
South West	343.1	33.5	12.5	- 2.3	0.1	23.2	15.0	8.2
North West	289.1	11.8	10.9	- 3.4	0.1	4.2	4.1	0.1
1966-68								
East Anglia	1,582.5	132.0	106.0	- 15.5	12.9	88.6	73.8	14.8
North East	667.1	45.1	24.4	- 8.8	6.3	24.2	20.8	3.4
South East	321.8	49.6	25.0	- 0.1	3.6	21.1	18.7	2.4
South West	343.1	58.1	27.9	- 7.4	2.0	36.6	29.7	6.9
North West	267.6	39.3	28.7	+ 0.9	1.9	7.8	7.7	0.1
1968-67								
East Anglia	1,582.5	29.4	9.3	3.2	0.1	16.7	—	—

*Figures are rounded and may not add to totals.

†Includes per rate allocation of the overall reduction in the strength of British armed forces at home and abroad and changes arising from later information about births and deaths.

Source: General Enquiry Office.

Population projections in Part II, Chapter 2

1. The projection of population put forward in Part II, Chapter 2, forms part of an exercise in which the General Register Office (GRO) after consultation with other government departments has produced projections covering the period 1986-81 for all the standard statistical regions of England and Wales.

2. An alternative projection for the region is contained in a paper published in 1967 by the East Anglia Consultative Committee (EACC)*. After consultation with officers of EACC this projection has been restated here in the same form as the GRO projection to facilitate comparison.

3. The GRO projection relates to home population and the EACC projection to civil population. On the assumption that the number of armed forces stationed in East Anglia will be the same in 1981 as in 1966, the whole of the change 1966-81 in the GRO projection can be attributed to the civil population and is therefore directly comparable with the change shown in the EACC projection.

Comparison of growth '000		
1966-81	GRO	EACC
1. Natural increase	122	141
2. Net population movement from outside the region	285	366
a to New and expanding towns	225	225
b to other places	40	143
3. Natural increase of net population movement	39	54
Total growth	428	563

The EACC forecast of growth is higher by 137,000.

4. Paragraph 3, item 1, natural increase, accounts for 18,000 of the difference. This is because two counties which have already experienced considerable growth in expanded towns believe that their birth rates will increase to a greater extent than the GRO expects.

5. Paragraph 3, item 3, accounts for 15,000 of the difference but this is not a point of substance. The rate of natural increase attributed to the migrants is the same in both projections, so that this difference is merely a consequence of the difference in the estimates of net population movement.

6. The main reason for the difference between the two projections in paragraph 3 lies in item 2b, net population movement from outside the region to places other than New and expanding towns, while the EACC estimates at 143,000, while the interdepartmentally accepted view, incorporated in the GRO projection, is for only 40,000.

7. EACC supports its figures by reference to:

- a recent trends. The figure of 143,000 is an almost exact extrapolation of the net migration gain of 47,000 between 1961 and 1966;
- b the amount of housing land already committed by allocation in development plans and by planning permissions issued. EACC states that there is a contingency margin in its allocations so that not all committed land need be developed by 1981 in order to accommodate the population growth which they forecast.

8. The interdepartmental assumptions incorporated in the GRO projections in paragraph 3 take account of past inter-regional and international patterns and trends in migration, of future planned overspill movements under the New Towns Act and the Town Development Act, and of regional and national economic policies. From this is derived the net migration movement to East Anglia (285,000). The Ministry of Housing and Local Government has estimated the intake to New and expanding towns 1966-81 at 250,000, but on the assumption that 10 per cent of the intake would be drawn from East Anglia itself, the net movement from outside the region to planned schemes would be 225,000. By subtraction, the allowance for net migration to the rest of the region is 40,000. The figure of net population movement is divided according to the destination of the migrants and there is no estimate of net voluntary migration as such.

9. One reason for the difference in migration assumptions lies in the treatment of international migration. Between 1961 and 1966 there was a net gain to the region of 13,000 on this account. Extrapolation, which is implicit in the EACC figure, would give a net gain of 39,000 between 1966 and 1981. But the GRO has taken note of the downward trend in overseas net migration for England and Wales, which in 1966-67 showed a net loss (of 11,000) for the first time since 1956. It has therefore assumed a net loss of 20,000 from East Anglia by international movement 1966-81. The difference in treatment of international migration therefore accounts for 69,000 of the difference in migration assumptions.

10. A second reason for the difference in migration assumptions concerns the effect which the great increase in movement to planned schemes will have on migration to other places in the region. It is assumed in the GRO projection that the much increased flow of planned schemes will absorb some of the potential migration to other places. EACC suggests that the substitution between movements to planned schemes and movements

*Report on Population Change and Trends in East Anglia (EACC4).

to other places will be of local rather than regional importance. It points out that in any case no houses have yet been completed in the major planned schemes, and in the meantime migration to other places is continuing at a high rate.

11. Whatever the pros and cons of the estimates of the component parts, the most important consideration is the estimate of overall growth, and both projections imply a further acceleration of the already high rate of growth. In the fifteen years up

to 1966 the population of the region increased by 200,000. For the next fifteen years the GRO forecast of growth is over twice, and the EACC forecast nearly three times, that amount. (See Table 7A.)

12. The limiting factor on population growth is the rate of employment growth. It seems less likely that the growth of employment could be accelerated sufficiently to support the very high rate of population growth forecast by EACC.

7A

Estimated population growth

	Actual		Forecast 1966-81	
	1951-61	1951-65	GRO	EACC
Population increase (assuming armed forces constant at 1966 level)	95	105	425	583
Population increase, annual average	10	21	29	38

Schemes under the 1952 Town Development Act

Towns	Date of TDA agreement	Population at start of scheme	Planned increase		Target population (including natural increase and voluntary migration) at 1961	Houses completed at June 1967	Houses to be built after June 1967	Agency* or nonallocation† scheme
			In terms of people	In terms of LA houses				
Bury St. Edmunds	1960	22,000	10,500	3,000	40,000	647	2,393	Nonallocation
Haverhill (Craig 1)	1958	4,500	10,500	3,000	15,500	1,876	1,622	Agency
Huntingdon	1956	8,200	8,575	2,450	21,600(1)	1,814	896	Agency
King's Lynn	1961	27,000	12,390	3,500	53,000	757	2,743	Nonallocation
Middlehall RD (at Middlehall and Brandon)	1964	24,000	7,000	2,000	35,000(2)	136	1,864	Agency
Newmarket	1955	11,350	3,150	900	Not decided	Nil	900	Agency
St. Neots	1967	5,000	7,000	2,000	14,000	365	1,635	Nonallocation
Sudbury	1964	6,550	5,250	1,500	13,000	Nil	1,500	Agency
Great Cornard (Melford RD)	—	2,680	2,625	750	6,500	443	307	Agency
Thetford	1958	8,000	10,500	3,000	13,500(1)	1,302	1,698	Agency
		—	77,390	22,100	—	6,742	13,258	

*A scheme in which the GLC builds the houses which, on completion, are handed over to district councils for letting to GLC tenants.

†A scheme in which a district council builds the houses, and the GLC contributes the tenants.

(1) A1 1373.

(2) A1 1374.

(3) A1 1375.

Employment structure, East Anglia compared with England and Wales mid-1966*

Standard Industrial Classification Order	East Anglia				England and Wales % of total employment	East Anglia employees relative to England and Wales (England and Wales = 100)
	Males '000	Females '000	Total '000	% of total employment		
I Agriculture, Forestry, Fishing	80.0	10.3	60.3	8.9	1.9	521
II Mining and Quarrying	2.3	0.2	2.5	0.4	2.4	17
Total Extractive	82.3	10.5	62.8	10.3	4.3	240
III Food, Drink and Tobacco	22.4	16.4	38.8	6.4	3.4	188
IV Chemicals and Allied Industries	7.6	2.6	10.1	1.7	2.3	74
V Metal Manufacture	3.2	0.7	3.9	0.6	2.7	22
VI Engineering and Electrical Goods	40.0	15.3	55.3	9.1	10.1	90
VII Shipbuilding and Marine Engineering	3.1	0.4	3.5	0.6	0.7	86
VIII Vehicles	13.7	1.6	15.3	2.5	3.8	86
IX Metal Goods not elsewhere specified	2.4	0.9	3.3	0.5	2.7	18
X Textiles	1.8	1.8	3.6	0.6	3.1	18
XI Leather, Leather Goods and Furs	0.4	0.6	0.9	0.1	0.3	33
XII Clothing and Footwear	4.3	9.6	13.8	2.3	2.3	100
XIII Bricks, Pottery, Glass, Cement, etc.	8.6	0.8	7.2	1.2	1.5	80
XIV Timber, Furniture, etc.	8.0	1.4	9.4	1.5	1.3	116
XV Paper, Printing and Publishing	10.7	5.0	15.7	2.6	2.8	93
XVI Other Manufacturing Industries	3.8	3.0	6.8	1.1	1.6	73

Total Manufacturing		128.0	59.8	187.8	30.8	38.4	90
XVII	Construction	50.5	2.0	52.5	8.8	7.0	123
XVIII	Gas, Electricity and Water	10.6	1.4	12.0	2.0	1.8	111
XIX	Transport and Communication	32.9	6.2	39.1	8.4	6.8	94
XX	Distributive Trades	36.3	38.8	75.1	12.0	12.7	94
XXI	Insurance, Banking and Finance	8.7	5.9	12.6	2.1	2.8	76
XXII	Professional and Scientific Services	25.0	44.4	69.4	11.4	10.7	107
XXIII	Miscellaneous Services	27.5	34.0	61.5	10.1	9.6	106
XXIV	Public Administration and Defence	28.4	9.6	38.0	8.2	8.8	107
Total Services		167.4	188.1	355.5	60.2	60.2	100
Total Employment		388.2	210.4	598.6	100.0	100.0	100

*Figures are rounded and may not add to totals.
Source: Department of Employment and Productivity.

Estimates of employees in employment in East Anglia: mid-1967

'000

Order	Males	Females	Total
I Agriculture, Forestry, Fishing	45.4	9.7	55.1
II Mining and Quarrying	2.0	0.2	2.2
Total Extractive	48.4	9.9	58.3
III Food, Drink and Tobacco	23.3	17.4	40.7
IV Chemicals and Allied Industries	7.9	2.8	10.6
V Metal Manufacture	2.8	0.6	3.4
VI Engineering and Electrical Goods	40.5	15.2	55.6
VII Shipbuilding and Marine Engineering	3.1	0.3	3.4
VIII Vehicles	14.2	1.5	15.7
IX Metal Goods not elsewhere specified	2.6	1.0	3.6
X Textiles	1.7	1.5	3.2
XI Leather, Leather Goods and Furs	0.6	0.4	1.0
XII Clothing and Footwear	4.6	9.9	13.5
XIII Bricks, Pottery, Glass, Cement, etc.	7.4	0.5	7.9
XIV Timber, Furniture, etc.	9.1	1.5	10.7
XV Paper, Printing and Publishing	11.0	5.6	15.6
XVI Other Manufacturing Industries	4.0	2.9	6.9
Total Manufacturing	132.8	69.8	192.7
XVII Construction	47.3	2.1	49.4
XVIII Gas, Electricity and Water	10.7	1.3	12.0
XIX Transport and Communication	32.2	5.5	37.7
XX Distributive Trades	34.5	34.9	69.4
XXI Insurance, Banking and Finance	5.5	6.9	12.5
XXII Professional and Scientific Services	25.5	47.7	73.2
XXIII Miscellaneous Services	25.9	32.5	58.5
XXIV Public Administration and Defence	30.2	10.1	40.3
Total Services	155.8	139.3	305.2
Total All Orders	395.4	210.2	605.6

Source: Department of Employment and Productivity.

East Anglia: employees in employment: change 1961-66

SIC Order	Industry Group	Males '000				Females '000				Total '000				Numerical Change '000				% Change 1961-66				Growth rate % per annum			
		1961	1963	1965	1966	1961	1963	1965	1966	1961	1963	1965	1966	M	F	M	F	M	F	M	F	M	F	T	T
I	Agriculture, Forestry and Fishing	66.1	66.0	10.4	10.3	76.5	60.3							-16.1	-0.1	-24.3	-0.9	-21.2	-6.4	-0.1	-4.0	-6.3	-6.3		
II	Mining and Quarrying	1.7	2.8	0.1	0.2	1.8	2.5							-0.3	-0.1	-35.3	-100.0	-38.8	-8.2	-15.0	-6.8				
III	Food, Drink and Tobacco	19.8	22.4	14.6	18.4	34.2	38.6							-2.6	-1.8	-14.3	-13.3	-13.6	-3.7	-2.4	-2.8				
IV	Chemicals	8.8	7.4	2.1	3.5	3.8	10.1							-0.6	-0.4	-11.8	-19.0	-13.6	-2.3	-3.8	-2.6				
V, VI and VII	Metals, Machinery, Metal Goods, Electrical and Marine Engineering	8.2	8.7	1.7	2.0	8.8	10.7							-0.6	-0.3	-8.1	-17.7	-8.1	-1.2	-3.3	-1.6				
VII	Engineering and Electrical Goods	31.8	40.0	11.1	16.5	42.9	55.0							-8.2	-4.4	-28.8	-39.6	-23.4	-4.7	-8.7	-5.3				
VIII	Vehicles	12.3	13.7	1.3	1.6	13.8	16.3							-1.4	-0.3	-11.4	-23.1	-12.5	-2.2	-4.2	-2.4				
X, XI and XII	Textiles, Leather and Fur, Clothing and Footwear	7.8	8.6	13.0	11.6	20.9	18.3							-1.4	-1.2	-17.7	-9.2	-13.4	-3.0	-1.6	-2.6				
XIV	Timber, Furniture	7.1	8.0	1.1	1.4	8.2	9.4							-0.9	-0.5	-12.7	-27.3	-14.6	-2.4	-4.0	-2.8				
XV	Paper, Printing, Publishing	8.2	10.7	4.0	6.0	12.2	16.7							-2.6	-1.0	-30.5	-25.0	-28.7	-5.6	-6.6	-5.2				
XVI	Other Manufacturing	1.7	3.6	1.7	3.0	3.4	8.8							-2.1	-1.3	-123.6	-76.6	-100.0	-17.8	-12.0	-16.0				
XVII and XVIII	Bricks, Glass, Pottery, Cement and Construction	48.1	57.1	2.0	2.8	51.1	55.7							-3.0	-0.6	-16.3	-30.0	-16.8	-3.1	-3.4	-3.2				
XIX	Transport and Communications	21.4	32.9	5.0	6.2	36.6	39.1							-1.1	-1.2	-3.6	-24.0	-6.3	-6.7	-4.4	-1.2				
XX	Electricity, Gas, Water and Sanitation	38.8	38.8	34.3	34.3	73.6	73.6							-2.3	-2.3	-6.0	-0.7	no change	-1.2	-1.3	nil				
XXI	Insurance, Banking, Finance	5.6	5.7	4.5	5.3	10.1	12.6							-1.1	-1.4	-19.6	-31.1	-34.7	-3.4	-6.6	-4.6				
XXII	Professional and Scientific Services	19.4	25.0	37.4	44.4	56.8	66.4							-5.6	-7.0	-23.9	-18.7	-22.2	-5.2	-3.6	-4.1				
XXIII and XXIV	Gas, Electricity, Water and Sanitation Services	32.6	38.1	32.7	35.4	65.3	73.6							-6.6	-2.7	-19.8	-8.3	-12.0	-3.2	-1.8	-2.4				
XXV	National and Local Government	24.7	24.4	8.8	9.6	31.5	36.0							-3.7	-2.8	-19.0	-41.2	-20.6	-2.8	-7.3	-3.8				
I-XXV	All Orders	373.2	338.2	133.8	210.4	567.0	608.6							-26.0	-28.8	-8.7	-14.0	-9.3	-1.3	-2.8	-1.6				

Methods employed to estimate future labour supplies in East Anglia 1971 and 1981

1. There are many and sometimes conflicting factors which influence regional activity rates. Both the methods employed in this Study for forecasting future labour supply attempt to take these factors into account.

2. It can be seen in Figure 23 that national and regional activity rates for males and females have fluctuated in recent years, but that future projected rates for Great Britain show a slight decline between 1966 and 1971, both for males and females—a decline which continues to 1981 for males, but levels out for females. *Method 1*, which has been used to project the East Anglia activity rates assumes, in the case of males, that the difference between the regional and the national rate has, overall, been neither narrowing nor widening between 1960 and 1966 and that the difference, i.e. 10·4 per cent, will remain in future at about the same magnitude. For females, the assumption is that the difference between the regional and national rates has been narrowing gradually and that this trend will continue. It has therefore been estimated that the differential will be 6 per cent in 1971 and 3 per cent in 1981.

3. The main defect in *Method 1* is that it assumes that the effect of migration on the population structure will be similar in the future to the effect in the past, whereas, in fact, the rate of migration is expected to accelerate, particularly in the period 1971–81. The migrants, generally speaking, are younger people with families. Migrant men in the age group 20–64 are usually employees; there is no reason to think that many of them are self-employed or in the armed forces. The women in the age group 20–39 have family responsibilities and may not wish to be employees. On the other hand, migrants will tend to go to urban areas, particularly to New and expanding towns, where labour demand is likely to be high. *Method 1* may

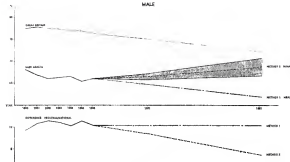
therefore underestimate the region's manpower resources.

4. For *Method 2* it has been possible to obtain figures for the migrants on the one hand and the remainder of the population on the other. Within each of 16 age/sex groups (eight 'static' groups and eight corresponding 'migrant' groups) trends have been identified, and projected activity rates estimated on a subjective basis, having regard to all the factors described above. To some extent this task has been simplified by the fact that particular trends are identified with particular age/sex groups. The activity rates have been applied to the population in each age/sex group to produce employee estimates, which can be aggregated and compared with the total population figures. Overall activity rates can then be produced to compare with those arrived at by *Method 1*. It will be seen from Figure 23 that the projection produced by *Method 2* yields a higher activity rate for males than the rate suggested by *Method 1*, reflecting what is probably the true effect of rejuvenation of the population by inward migration. This projection has therefore been adopted with a range of $\pm 0\cdot68$ per cent for 1971 and ± 2 per cent for 1981 as the basis for male labour supply estimates.

6. For females, the result arrived at by *Method 2* falls fairly close to the result obtained by *Method 1*. Therefore, in setting the upper and lower limits in Table 12 (Part II, Chapter 3) a range has been assumed which encloses the results by both methods.

6. *Method 2*, whilst taking account of factors more comprehensively, is open to inaccuracy because of the subjective way in which the age/sex activity rates were estimated. Consequently, the results from both methods should be interpreted with caution.

MALE



FEMALE

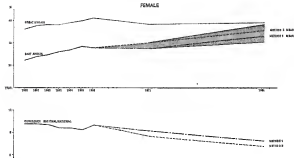


Fig. 23 Activity rates 1960-81

Note: In the above graphs the forecasts arrived at by Methods 1 and 2 are shown as separate lines in the sections marked 'Difference Regional/National'. In the other sections the preferred method, or combination of methods, has been expressed as a range—i.e. $\pm 1\%$ at 1971; and $\pm 2\%$ at 1981.

Regular whole-time workers* on agricultural holdings

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Cambridgeshire and the Isle of Ely	16,675	15,475	14,648	14,242	13,828	13,189	12,592	12,464	11,373	11,872	11,028	10,755	10,211	9,813	9,299	8,397†	7,304	7,685
Huntingdon and Peterborough	5,829	5,646	5,284	4,985†	4,872	4,496	4,285	4,227	4,145	4,096	3,877	3,741	3,594	3,528	3,254	3,559†	3,301	3,207
Norfolk	32,746	32,232	31,286	30,625	29,842	29,025	27,534	27,746	26,681	26,554	25,786	24,909	23,443	22,572	21,377	20,027	18,419	17,489
Suffolk	22,152	21,655	20,760	20,443	19,794	18,963	18,350	18,220	17,695	17,109	16,326	15,423	14,553	13,963	13,168	12,462	11,815	10,995
Total: East Anglia	77,302	74,358	72,077	70,296†	68,337	65,673	63,261	62,857	60,294	59,431	57,018	54,834	51,301	49,376	47,096	44,445	41,259	39,376
Total: England and Wales	675,263	652,803	633,694	620,307	605,352	478,669	454,736	448,059	432,359	424,862	405,703	383,792	367,628	358,777	333,124	310,606	294,693	279,143

*Excludes the occupier.

†Thurley Road District (308 workers at 4th June 1965) was transferred from Cambridgeshire and Isle of Ely to Huntingdon and Peterborough on 1st April 1965.

Source: Agricultural Census.

Labour on agricultural holdings (regular whole-time male workers* by age group)

	Under 16		15-19		20-24		25-34		35-44		45-54		55 and over	
	Number	% of total	Number	% of total	Number	% of total	Number	% of total	Number	% of total	Number	% of total	Number	% of total
Cambridgeshire and Isle of Ely	348	4.6	280	4.1	874	9.4	1,176	16.4	1,653	22.0	2,838	38.9	265	3.5
Northamptonshire and Peterborough	184	6.1	186	6.7	319	10.7	565	18.3	647	21.6	1,039	30.7	117	3.9
Northall	638	4.0	315	3.7	1,468	6.6	2,916	17.7	3,672	23.4	6,427	38.9	421	2.5
Northall	566	4.8	481	4.6	928	8.6	1,335	17.5	2,122	20.8	4,316	40.6	297	2.8
Total: East Angles	1,716	4.5	1,355	4.2	3,369	9.6	6,475	17.9	8,366	22.4	14,760	39.6	1,086	2.9
England and Wales	26,024	7.6	17,136	6.6	33,026	12.9	50,174	19.4	52,360	20.6	76,385	30.3	6,866	3.7

*Excludes full-time
Seasonal Agricultural Census 1967

Comparative industrial structure 1966 (employees) broad groups

	North East			South East			South West			North West			East Anglia		
	No. '000	% of sub- division total	% of East Anglia total	No. '000	% of sub- division total	% of East Anglia total	No. '000	% of sub- division total	% of East Anglia total	No. '000	% of sub- division total	% of East Anglia total	No. '000	% of East Anglia total	
Extractive	25.8	12	41	13.1	10	21	9.6	8	15	14.8	14	23	63.3	11	100
Manufacture	71.1	32	36	43.6	32	23	32.8	29	18	40.0	37	21	186.9	32	100
Services (including construction)	124.8	56	38	77.3	56	24	72.6	63	22	54.4	50	17	329.1	57	100
Total	221.7	100	36	133.5	100	23	115.0	100	20	109.2	100	19	579.3	100	100

Source: Department of Employment and Productivity.

**Industrial structure of sub-divisions 1961-66 (employees)
detailed changes***

	North East				South East				South West				North West			
	1985		Change		1985		Change		1985		Change		1985		Change	
	'000	'000	'000	%	'000	%	'000	%	'000	%	'000	%	'000	%	'000	%
Extraction	28.6	26.8	-1.7	-7.3	15.6	13.2	-2.4	-13.2	12.6	9.6	-3.0	-23.6	16.6	14.6	-2.0	-11.9
Mineral Manufacturing																
Food, Drink and Tobacco	16.7	18.5	1.8	10.8	8.6	7.8	1.0	14.7	—	—	—	—	9.7	7.1	1.6	24.6
Engineering	12.3	16.1	3.8	30.9	10.2	12.7	2.6	24.6	9.6	13.6	2.4	25.0	10.2	14.3	4.1	40.2
Vehicles	—	—	—	—	—	—	—	—	—	—	—	—	7.7	7.6	0.1	—
Clothing, Footwear	12.0	10.2	-1.8	-15.0	—	—	—	—	—	—	—	—	—	—	—	—
Furniture, Textiles, etc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Furniture, Textiles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Printing, Paper	6.7	6.8	1.1	19.3	—	—	—	—	—	—	—	—	—	—	—	—
Total Manufacturing	63.4	71.1	7.7	9.6	36.6	43.6	8.2	16.8	24.5	32.6	7.3	28.6	32.6	40.0	7.2	22.2
Construction	16.6	20.3	3.6	20.8	10.0	13.5	2.6	23.6	9.3	10.6	1.5	16.1	6.7	7.6	1.1	18.3
Transport	10.4	10.1	-0.3	-2.9	8.3	6.6	-0.9	-4.8	—	—	—	—	8.4	9.2	0.8	9.4
Wholesale	26.6	27.7	2.1	8.3	16.1	16.5	-0.2	-12.4	12.6	12.6	-0.2	-15.5	11.6	12.6	0.9	7.8
Insurance, Banking and Finance	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Professional	17.4	21.5	4.1	23.6	11.9	14.2	2.4	20.1	18.0	22.6	4.6	25.0	7.4	9.3	1.9	29.7
Total Construction and Services	110.3	134.6	14.5	13.1	63.8	77.3	8.7	12.7	66.7	72.6	6.5	10.5	46.1	54.4	8.3	13.1
Total All Orders	281.6	321.7	39.9	14.2	121.3	133.6	12.3	10.0	103.5	115.0	11.1	10.7	87.7	103.3	15.6	11.9

[illegible]

Source: Assessment of Investments and Productivity

Industry	North East			South East			South West			North West			East Anglia		
	No.	Area '000 sq. ft.	Estimated employment	No.	Area '000 sq. ft.	Estimated employment	No.	Area '000 sq. ft.	Estimated employment	No.	Area '000 sq. ft.	Estimated employment	No.	Area '000 sq. ft.	Estimated employment
Food, Drink, Tobacco	56	838	3,364	28	472	480	9	135	153	13	591	1,110	106	2,136	5,107
Engineering	44	846	2,268	45	1,066	1,111	38	668	1,734	20	382	780	147	2,982	5,903
Vehicles	21	463	1,032	4	259	288	12	187	602	4	85	115	41	874	1,818
Clothing	10	167	802	—	—	—	2	15	120	2	5	18	14	187	1,040
Bricks, Cement	11	243	401	2	100	53	14	311	376	5	40	88	32	854	518
Timber, Furniture	21	314	640	16	157	210	18	268	836	14	144	87	89	881	1,781
Paper, Printing	20	401	587	6	234	243	20	543	654	6	70	204	52	1,250	1,694
Other	3	57	251	21	615	743	16	330	778	5	113	277	45	1,115	2,049
Chemical	7	83	258	6	74	146	2	8	30	5	54	149	20	180	582
Metal Manufacture	8	83	83	—	—	—	1	16	13	2	21	35	11	100	131
Shipbuilding	17	631	875	3	12	25	4	29	82	4	25	57	28	767	1,036
Metal Goods n.a.s.	2	19	35	9	159	70	1	40	—	2	33	131	14	251	256
Textiles	2	17	55	1	6	62	1	17	12	1	8	3	5	48	172
Leather	15	169	775	7	58	141	32	556	1,516	7	96	540	61	879	2,972
Other Manufacturing	54	1,079	2,372	47	924	1,187	57	886	2,431	28	380	1,182	184	3,348	7,182
Total Other	237 (26·8)	4,451 (25·8)	11,574 (45·3)	145 (23·1)	3,232 (25·6)	3,559 (14·1)	170 (28·4)	3,123 (23·1)	6,806 (26·6)	50 (14)	1,847 (13·2)	3,604 (14·3)	645 (100)	12,453 (100)	25,543 (100)

*The figures in brackets show the sub-divisions both as percentages of the East Anglia total.

Source: Board of Trade.

Summary of indices of appendices 15, 16 and 17

Part II 1961-66

Part I

Sub-division	Population 1961		Employed population 1966		Share of employees in extensive industry 1966		Share of employees in manufacturing industry 1966		Share of employees in service industry 1966		Share of industrial building 1966-67		Growth of population		Growth of employed population		Growth of extractive employment		Growth of manufacturing employment		Growth of services employment	
	%		%		%		%		%		%		%		%		%		%		%	
North East	24		26		41		24		38		26		4.9		6.6		-7.3		9.6		12.8	
South East	24		29		21		23		24		26		8.0		10.1		-13.2		16.9		12.7	
South West	21		20		19		16		22		25		50.8		11.4		-23.8		28.6		16.6	
North West	20		19		23		21		17		13		4.0		11.9		-11.8		22.3		13.1	
Great Britain	100		100		100		100		100		100											

Trunk road programme up to 1970

Major trunk road schemes announced by the Ministry of Transport as being included in the road programme up to 1970 or in the 'preparation pool'*:

Trunk roads

- A1 Eaton Socon by-pass
 Stibbington to Wansford Bridge
- A11 Cringleford by-pass

*The Ministry of Transport has announced a programme of trunk road improvements due to start in the period up to 1970, and also the formation of a 'preparation pool' of trunk road schemes which are to be developed to the point where they can be considered for inclusion when the firm programme for the early 1970s comes to be phased. Improvements expected to cost less than £250,000 are dealt with differently and would be additional to those listed above.

- A12 Lowestoft Bescote Bridge reconstruction
 Kesgrave and Martlesham by-pass
- A47 King's Lynn southern by-pass
 Eest Dershem by-pass (Stage I)
- A45 Needham Market-Claydon by-pass
 Stowmarket relief road
 Bury St. Edmunds by-pass
 Chesterton Bridge, Cambridge
 Newmarket by-pass
- A14 Huntingdon and Godmanchester by-pass
- A15 Peterborough Inner relief road

Potential trunk road

- A130/A604 Cambridge western by-pass and
 improvements to A130 and A604

Local highway authorities' principal road schemes up to 1970

Local highway authorities' principal road schemes announced as being included in the road programme up to 1970 or on the 'preparation list' for the 1970s*:

Cambridge

- A504 Northern access road
Four Lamps roundabout to Gonville Place roundabout
Western relief road
A803 East Road—Gonville Place—Lanefield Road—Hyde Park Corner improvement

Fakenham

- A14B Northern by-pass

Great Yarmouth

- A47 Fullers Hill and Burs Bridge
A12 Halfway House to Bridge Road diversion
New Central Route from Regent Road to St. George's Plain
New Central Route: Balance of scheme
A47 Aisle new road from Borough Boundary to Burs Bridge: dualling

Lowestoft

- Central Area Proposals: Phases I and II

March

- A141 Improvement of High Street
A141 Inner relief road

North Walsham

- A149 By-pass

Norwich

- A1024 Inner link road—Stage I, Barrack Street to St. Giles Gate
A1024 Inner link road—Stage II, St. Giles Gate to Finkelgate
A47 Foundry Bridge junction improvement
A140 Augustine Street/Pitt Street: inner link road to Magpie Road: dualling
A47 Thorpe Road: Foundry Bridge to Carrow Road: dualling
A1074 Boundary Road/Aylsham Road: junction improvement
A1074 Haertsess Lane/Plumstead Road: junction improvement
A148 Trowse Railway Bridge: reconstruction
B113B Berneck Street—Cowgate to Bishop-bridge Road: dualling
A1074 Sweet Briar Road/Drayton Road: junction improvement
B113B Riverside: dualling
A140 Aylsham Road—Half Mile Road to St. Augustine's Gate: dualling
A47 Danham Road—outer ring road to St. Benedict's Gates: dualling
A1024 Brecondale—Bar Street to King Street: dualling

Stowmarket

- A1120 Town Centre relief road

Whitlsey

- A606 West End improvement and Syers Lane extension

Cambridgeshire and Isle of Ely CC

- A1101 Wisbech, Canal Road completion

Huntingdon and Peterborough CC

- B1040 St. Ives by-pass

East Suffolk CC

- A45 Trimley and Walton by-pass
Felixstowe relief road

*This selection of schemes has been compiled from proposals not forwarded to the Ministry of Transport by local highway authorities. Schemes in Ipswich, Peterborough and other ascending towns are not included, pending decisions on land use. The significance of the 'preparation list' is that the local highway authorities respectively responsible will know that the detailed preparation of projects so listed may and should proceed, so that they may be properly considered for advancement to the firm construction programme when the time arrives for this or be extended.

East Anglia ports: trade* handled in 1966

000 tons

Port and commodity group	Foreign			Coastwise			Total trade
	Imports	Exports	Total	Inwards	Outwards	Total	
King's Lynn							
Foodstuffs	29	148	178	—	82	82	237
Basic Materials	179	2	181	1	8	9	190
of which wood, lumber and cork	104	—	104	—	—	—	104
oils, fertilisers and minerals	72	—	72	1	8	9	81
Fuels	—	—	—	334	—	334	334
of which petroleum products	—	—	—	334	—	334	334
Manufactured Goods	63	46	109	2	22	24	133
Total	271	194	466	337	91	428	694
Wisbech							
Foodstuffs	3	14	17	—	6	6	23
Basic Materials	33	—	33	—	—	—	33
of which wood, lumber and cork	32	—	32	—	—	—	32
Fuels	—	—	—	38	—	38	38
of which petroleum products	—	—	—	38	—	38	38
Manufactured Goods	44	3	47	—	—	—	47
Total	79	17	96	38	6	44	140
Wells							
Foodstuffs (Grain)	1	7	8	—	3	3	11
Manufactured Goods (Chemical Fertiliser)	7	—	7	—	—	—	7
Total	8	7	16	—	3	3	18
Norwich (1966-67)							
Foodstuffs	48	2	50	—	—	—	50
Basic Materials	11	2	13	4	—	4	17
Coal and Coke	—	—	—	81	—	81	81
Manufactured Goods (Chemical Fertiliser)	7	—	7	—	—	—	7
Total	66	4	70	85	—	85	154
Great Yarmouth (Including Norwich)							
Foodstuffs	117	48	166	11	3	14	180
Basic Materials	108	58	176	—	—	—	176
Fuels	—	1	1	667	—	667	668
of which coal	—	—	—	83	—	83	83
petroleum products	—	1	1	474	—	474	475
Manufactured Goods	33	63	96	20	—	20	116
Total	258	161	419	697	3	700	1,040
Lowestoft							
Foodstuffs	18	31	49	7	1	8	58
Basic Materials	38	1	40	26	—	26	66
Fuels	2	—	2	54	—	54	56
of which petroleum products	—	—	—	53	—	53	53
Manufactured Goods	12	28	41	—	—	—	41
Total	71	62	133	86	2	87	220

Port and commodity group	Foreign			Countrywise			Total trade
	Imports	Exports	Total	Inwards	Outwards	Total	
Felixstowe							
Roadstuffs	73	85	158	12	6	19	156
Basic Materials	39	12	51	—	—	—	51
Fuels	160	2	162	46	—	46	227
of which petroleum products	160	2	162	46	—	46	227
Manufactured Goods	181	173	354	6	4	12	366
Total	473	251	725	66	10	76	801
Ipwich							
Roadstuffs	174	48	223	23	25	48	272
of which cereals	139	N/A	N/A	2	—	N/A	N/A
Basic Materials	91	6	96	138	—	135	231
of which crude	81	1	81	131	—	131	163
fertilisers and minerals	—	16	17	1,290	7	1,297	1,313
Fuels	—	16	16	750	—	750	605
of which coal	—	—	—	500	6	507	507
petroleum products	142	46	191	46	55	100	292
Manufactured Goods	—	—	—	—	—	—	—
Total	410	116	527	1,484	87	1,581	2,108
Harwich							
Roadstuffs	172	16	188	—	—	—	168
Basic Materials	8	8	13	—	—	—	13
Fuels	18	1	19	1	—	1	20
Manufactured Goods	241	341	582	—	—	—	582
Total	437	366	802	1	—	1	803

*Check figures include tonnage of (i) used packaging, (ii) unallocated bulks, and (iii) special traffic. Items (i) and (ii) are of some significance for Felixstowe (220,000 tons) and item (iii) for Lowestoft (16th, 20,700 tons). Great Yarmouth (19th, 1,000 tons), Harwich (motor vehicles and trailers not for import or export—48,000 vehicles). Figures are rounded and may not add in totals.

Source: National Ports Council, *Report of Port Statistics 1967*, and Department of Economic Affairs from information supplied by port authorities.

Permanent dwellings started and completed 1961-67

	Started			Completed						
	Publicly* owned (1)	Privately owned (2)	Total (3)	Total for England and Wales (4)	Col. (3) expressed as percentage of Col. (4) (5)	Publicly* owned (6)	Previously owned (7)	Total (8)	Total for England and Wales (9)	Col. (8) expressed as percentage of Col. (9) (10)
1961	4,254	7,714	11,968	284,676	4.2	3,132	6,746	9,878	268,832	3.6
1962	3,953	6,009	11,962	283,036	4.0	3,455	7,178	10,633	278,667	3.8
1963	3,617	8,002	12,619	330,326	3.6	3,994	7,440	11,434	278,666	4.1
1964	5,235	11,861	17,196	390,173	4.4	3,931	9,670	13,601	336,505	4.1
1965	6,241	16,368	16,609	256,373	6.4	4,567	10,308	14,875	347,181	4.2
1966	5,588	10,386	15,974	343,267	4.6	6,824	10,882	17,716	346,480	5.0
1967	8,485	12,702	19,187	403,573	4.8	6,342	10,698	16,960	382,698	4.7
1961-67	38,373	70,142	106,515	2,301,426	Av. 4.6	32,265	63,142	95,407	2,222,216	Av. 4.3

*Publicly owned includes houses built by local authorities, housing corporations and government departments.

Source: Ministry of Housing and Local Government.

Slum clearance in East Anglia

Total houses demolished or closed 1955-67

	East Anglia	England and Wales	Percentage
1955	1,376	24,373	5.2
1956	1,784	34,335	5.1
1957	2,131	44,515	4.7
1958	2,323	52,523	4.4
1959	2,277	57,566	3.9
1960	2,417	56,561	4.2
1961	2,118	51,969	3.4
1962	2,197	52,431	3.6
1963	1,952	51,445	3.1
1964	1,830	51,215	3.1
1965	1,715	50,555	2.8
1966	1,677	55,792	2.8
1967	1,585	71,152	2.4
1955-67	25,674	716,523	3.6

Source: Ministry of Housing and Local Government

Availability of basic household amenities 1966

[illegible]

Numbers of houses improved with grants in East Anglia 1956-67

	Local authority houses			Private houses			Total
	Discretionary		Standard	Discretionary		Standard	
	Conversions	Improvements		Conversions	Improvements		
1956-69	32	419	638	303	6,491	1,164	8,044
1960	5	1,397	1,822	157	1,605	3,044	7,730
1961	7	1,163	813	161	1,571	1,232	5,057
1962	71	1,391	566	188	1,481	3,090	6,317
1963	13	1,437	620	161	1,379	3,059	6,706
1964	9	1,066	436	177	1,466	3,160	6,616
1965	23	1,161	824	131	1,162	3,364	6,516
1966	12	1,267	295	166	672	3,077	5,601
1967	16	1,666	205	106	1,022	3,043	6,959
Total	188	11,437	6,852	1,670	17,171	24,243	60,561

Source: Ministry of Housing and Local Government.

Number and percentage of students attending grant-aided establishments of further education in East Anglia* November 1966

	Students aged 15-17		Students aged 18-20		Students aged 21 and over	Students all ages
	Number	Percentage†	Number	Percentage†		
Full-time courses						
Men	1,781	6.28 (3.82)	744	1.89 (2.80)	219	2,744
Women	1,862	6.23 (4.50)	601	1.63 (1.83)	118	2,662
Total	3,743	6.74 (4.26)	1,345	1.76 (2.37)	338	6,426
Sandwich courses						
Men	43	0.13 (0.10)	94	0.48 (0.84)	66	205
Women	1	— (0.01)	5	0.01 (0.04)	1	7
Total	44	0.07 (0.06)	99	0.13 (0.44)	68	212
Part-time day courses						
Men	6,666	19.74 (20.84)	6,884	16.17 (18.47)	2,817	16,457
Women	1,862	4.96 (6.18)	656	1.78 (2.22)	1,642	3,760
Total	8,218	12.50 (13.67)	6,640	8.59 (10.43)	4,369	19,217
Evening only courses						
Men	1,067	3.17 (4.64)	1,600	3.80 (6.80)	6,899	8,866
Women	2,068	6.62 (7.31)	1,941	5.26 (6.88)	7,416	11,411
Total	3,122	4.78 (6.89)	3,441	4.61 (6.88)	13,414	19,877
Evening institutes						
Men	3,018	6.96 (10.10)	1,746	4.42 (4.66)	10,877	16,381
Women	3,374	10.71 (10.01)	2,238	6.06 (6.88)	26,508	31,689
Total	6,382	9.80 (10.08)	3,984	6.22 (6.26)	36,496	48,010
All courses						
Men	12,668	37.27 (38.49)	10,067	26.62 (32.66)	20,080	43,323
Women	8,964	28.43 (28.09)	6,442	14.73 (16.88)	34,686	48,518
Total	21,619	33.00 (33.92)	16,608	20.31 (24.40)	54,696	82,642

*Excluding students under 16 years in evening institutes.

†Percentage of the population of the age group. Figures in brackets relate to England and Wales.

Source: Department of Education and Science.

Glossary

Activity rate

The proportion of the total number in any group of people of a particular age or sex who work or are available for work. In this Study the rates used relate to the number of employees (employed and registered unemployed) as a proportion of the home population aged 15 and over.

Basic civilian population

Private household population minus the dependents of servicemen.

Civilian population

The population resident in an area minus armed forces stationed in that area.

Economically active population (census of population)

Those people aged 15 and over who were in employment during the week before the census, and those who, though intending to get work, were out of employment at the time of the census.

Employees in employment

Mid-year estimates of civilian employees, derived from National Insurance cards, less the registered wholly unemployed.

Employee totals

Employees in employment plus the unemployed.

Home population

Total population (including armed forces) resident in an area.

IDC Industrial Development Certificate

The certificate which the Board of Trade issues under the Town and Country Planning Act, in respect of suitable industrial development (generally over 3,000 sq. ft.), certifying that the development in question is in accordance with the proper distribution of industry.

ISS Industrial Selection Scheme

The scheme operated by the Greater London Council in the attempt to move those Londoners who are in 'housing need' to jobs and housing in the New and expanding towns.

Labour reserve

Those people registered as unemployed minus a those unemployed for less than one month (mainly those changing jobs), b those aged 60 and over, c those aged 58 and over who are registered for clerical work, d the disabled, e those with a very poor employment record.

Labour reserve rate

The labour reserve expressed as a percentage of the employee total.

Land use/transportation study

A comprehensive study of all the demands for movement in a locality (including surveys of land uses, journey purposes and their origins and destinations) to provide a basis for co-ordinated land use and transport planning.

London overspill

Net outward migration from the Greater London Council (GLC) area. Planned London overspill refers to people nominated by the GLC who move to New and expanding towns. Voluntary overspill refers to people who move out under their own arrangements.

Lower quartile

That point in a frequency distribution which has one-quarter of the values below it and three-quarters of the values above.

Median

The value of the middle item of a frequency distribution.

Motorways

Motorways are roads reserved for motor vehicles and built to higher engineering standards than all-purpose roads: all junctions are on at least two levels, and there are continuous hard shoulders where vehicles can stop in an emergency.

Natural increase

Births minus deaths.

Net migration

Immigrants minus emigrants.

Planned expansion schemes

Town expansions under the New Towns Act and the Town Development Act, designed to cater primarily (but not entirely) for planned overspill from London.

Population of working age

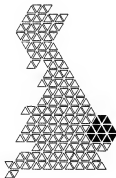
Home population aged 15-64 (males) and 15-59 (females).

Primary routes

All trunk routes and the more important principal roads.

EAST ANGLIA **A STUDY**

A first report of the
East Anglia Economic
Planning Council



London: Her Majesty's Stationery Office 1968

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Foreword

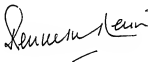
This Study seeks to draw attention to the features of East Anglian economic life, both present and future, which call for careful consideration by us all.

The Study is in two parts. The factual appraisal is largely based on information provided and analysed by the Economic Planning Board. Much of it has been worked out on an East Anglian Regional basis for the first time, and we are indebted to the Members of the Board who have given so much time and thought to this work.

The first part of the Study sets out separately our preliminary views on the longer term strategy for the region, and in it we have made recommendations for modifications of central government policy which we believe are necessary for our continued prosperity and growth. Our region

is likely to see the biggest and most rapid changes of any in the country, and it will need much thought and careful planning if the unique character of the region and its contribution to the national life are not to be affected adversely.

Our views are intended to be the basis of a dialogue with bodies and organisations in the region, which we hope will enable us to refine our ideas and define a more detailed strategy for the region. This document is only a beginning. We know that many of our readers will wish to challenge some of the propositions and this we shall welcome. It will only be by discussion of our problems and a willingness to co-operate on the part of all those concerned that we shall be able to design a sound economic future for the region.



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